

TRANSCRIPT

STANDING COMMITTEE ON THE ENVIRONMENT AND PLANNING

Inquiry into fire season preparedness

Melbourne — 16 August 2016

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Witnesses

Mr Adam Fennessy (affirmed), Secretary,
Mr Lee Miezis (affirmed), Deputy Secretary, Forest, Fire and Regions, and
Mr Darrin McKenzie (sworn), Acting Chief Fire Officer, Department of Environment, Land, Water and Planning.

The CHAIR — I declare open the inquiry into bushfire preparedness and welcome Adam Fennessy, Lee Miezis and Darrin McKenzie, from DELWP. I indicate, first off, that evidence given here is protected by parliamentary privilege. Outside, that is not necessarily the case. If I can ask you, Mr Fennessy, to lead off with a short submission, then we will follow with some questions.

Mr FENNESSY — Thank you, Chair. We have got some slides and about a 10-minute submission.

The CHAIR — Let us keep it to a tight 10 minutes.

Mr FENNESSY — We will race through. I will start the presentation and throw to Lee Miezis halfway through.

Visual presentation.

Mr FENNESSY — Firstly, thank you for the opportunity to present today to the committee. We will talk to a joint submission that we have made to the committee on behalf of a range of emergency management agencies — DELWP, Parks Victoria, Melbourne Water, VicForests, the Country Fire Authority and Emergency Management Victoria — and of course we will present from a DELWP perspective and take any questions that are relevant to DELWP.

Lee is here with me today, who is the deputy secretary of our Forest, Fire and Regions Group, where all of our fire responsibilities are located. Darrin McKenzie is here as the acting Chief Fire Officer for DELWP.

I note as well that Parks Victoria delivers a lot of accountabilities for me in my capacity as the secretary under the Forests Act, and I know that the committee will call Parks Victoria separately. That is the introduction.

In terms of the emergency management sector, this goes to some of the information in the submission, so I will go through it very quickly. You can see that from decades ago, with the traditional focus on equipment in preparation for fire, we have moved to a much broader approach around community, people and culture, governance, services and systems, and this very much draws upon our long-term learnings from the bushfires royal commission following Black Saturday and then more recently the *Safer together* policy for whole-of-Victorian-government emergency management.

So our focus is very much to partner with communities, and I think it was last year we had the deputy director of FEMA, the Federal Emergency Management Agency, from the US. It is very much world best practice to talk about all emergencies, all communities, so that is very much the approach that we have taken in Victoria, and that picks up on a national approach as well as international.

In terms of the detail within that, we work through Victoria's emergency management strategic action plan, which is led by Emergency Management Victoria, and you can see some of the principles — I will not read through them all — particularly the community at the centre of all that we do in emergency management. So that is a snapshot at that broader systems approach across emergency management.

The next slide talks about the policy directions outlined in *Safer together*. In February 2015, last year, the government asked the Inspector-General for Emergency Management to make recommendations regarding the most effective performance target for fuel management on public land. This was of critical relevance to us because we are responsible for delivering that fuel management policy. The Inspector-General submitted his review in May 2015 recommending to go to a risk reduction target as the most effective performance target for bushfire fuel management on public land, and this was indeed consistent with recommendations from Neil Comrie, the royal Commission Implementation Monitor.

In response to the Inspector-General's review the Victorian government released *Safer together — A new approach to reducing the risk of bushfire in Victoria*. You can see there from the slide that it looks at fuel management on public land guided by a risk reduction target rather than the hectare target that we were more familiar with in the past. That maintains bushfire risk at or below 70 per cent. I will go through that in a separate slide. It is about integrated planning and delivery across land tenures — so where in the past DELWP and our predecessor agencies looked at public land and the CFA at private land, we now look across all tenures, which makes sense because fire and landscape risks do not acknowledge public or private boundaries. It is about a landscape approach.

Finally, measuring and the critical measurement aspects: bushfire management strategies are to be measured against this restructured outcome. So that is a snapshot of *Safer together*. I will now turn to Lee Miezis to go through what that 70 per cent target looks like with some of the evidence and science we have done over the years.

Mr MIEZIS — Thanks, Adam, and thank you, committee. I will just quickly touch on what is bushfire risk, and bushfire risk the likelihood of a fire starting, spreading and impacting on people, on property and on the environment. We can reduce bushfire risk; however, Victoria is one of the most fire-prone areas in the world, so the risk of bushfire cannot ever be totally eliminated.

Fuel management is one of the strategies that we use for reducing bushfire risk. Fuel management reduces the amount of leaves, of bark, of twigs and of other vegetation that provides fuel for bushfires. When those fuels are reduced, the impact of bushfires is often less severe, which therefore reduces the impact and consequences of bushfires on communities and the things that they value. Fuel management also improves the effectiveness of initial attack on fires when they do start, by reducing the intensity and the rate of spread of those fires, therefore providing a greater opportunity for firefighters to implement suppression strategies.

Fuel management, as Adam said, does need to occur across all land tenures — not just public land, but across private land — to effectively reduce bushfire risk. Fuel management is complex. It can result in impacts on local communities, on industry and on environments, and strategic and operational planning in partnership with communities helps us to manage those impacts and to design strategies that are locally appropriate. Planned burning is one method of fuel management, but there are other methods that we use, such as slashing, mowing or even chemical treatments, that are important in certain landscapes. Chapter 4 of our submission sets out how we reduce bushfire risk through fuel management, including targeting our actions where they are most effective, the importance of assessing and managing risk across all land tenures, and the role of fuel management in keeping risk low.

Fuel management, as I said, is effective in reducing bushfire risk by reducing the speed, intensity and spotting potential of bushfires. Bushfires themselves also reduce fuel loads; however, fuel management — the deliberate introduction of fire into the landscape — provides a more controlled, timely and often cost-effective way to keep that bushfire risk low. Since the Victorian bushfires royal commission recommendation to increase the level of planned burning to 5 per cent of public land, there has been a significant increase in the investment and the amount of fuel management undertaken.

The hectare target for fuel management, progressively increased from about 130 000 hectares in 2009–10 to 200 000 hectares in the following year, with incremental increases until 2014–15, when the target reached 275 000 hectares, and that same target applied in 2015–16. But at the same time that the department, Parks Victoria and our partner agencies were focused on increasing the amount of fuel management we undertook, we were also focused on building our capability in being able to model, understand and measure how much risk is reduced by fuel management and on our strategic planning with communities to maximise the effectiveness and minimise the impact of those activities so that we can better target our fuel management.

Government, as Adam said, has now adopted a risk reduction target to measure the effectiveness of fuel management activities on public land in reducing the risk of bushfire to people, property and the environment. The target has been set to maintain risk at or below 70 per cent of its maximum level. At maximum fuel levels bushfire risk is 100 per cent, and through fuel management we aim to reduce levels to 70 per cent — the residual risk being 70 per cent — which means that if a major bushfire were to occur, the impacts to life and property would be reduced by approximately a third due to fuel management on public land. Based on our current assessments, to achieve a residual risk of 70 per cent in 2016–17 would require us to treat somewhere between 225 000 and 275 000 hectares.

To put residual risk in context, this slide gives that context — and it is replicated on page 35 of our submission — it shows that in 2002 bushfire risk in Victoria was almost 90 per cent. Following a decade of drought and fire, which included the 1.5 million-hectare fires in 2002–3, the 1 million-hectare Great Divide fires in 2006–7 and the half million-hectare Black Saturday fires, bushfire risk in Victoria fell to below 60 per cent in 2010. But as our forests and parks recover and fuel accumulates, bushfire risk has increased and is now estimated to be around 65 per cent. We know through our modelling, and as this graph shows, that without effective intervention, bushfire risk will increase up to 2002 levels, so up to about 90 per cent, by 2020.

This is a figure that is replicated on page 34 of our submission. It shows the area affected by bushfire and fuel management each year since 1980 and the resulting amount of residual risk or risk remaining in the landscape after that fire. For the period 2016–2018, the end of the graph shows modelled residual risk, and it shows a range to reflect the possible variances in the location or the extent of bushfire and fuel treatments. As the graph shows, fuel loads and therefore residual risk is also reduced by actual bushfires. The graph also shows that the location of those bushfires and of planned burns influences how much risk is reduced. For example, whilst the 2002-3 Alpine and 2006-7 Great Divide fires were each more than twice the area of the 2009 fires, they did not have the same impact on residual risk because they had less consequence in terms of life and property, having occurred in more remote parts of Victoria. So the role of fuel management is to keep residual risk from rising as fuel loads reaccumulate after major bushfire events.

I will now just briefly turn to how we calculate bushfire risk. Fire simulators dynamically integrate spatial and temporal factors that determine bushfire risk, including the likelihood of a fire spreading to an asset of value or importance. Phoenix RapidFire is the main tool used in Victoria and across Australia to model bushfire risk. Phoenix uses information about Victoria's weather, topography, vegetation and fire history to simulate and predict the spread and impact of fires. Phoenix is able to characterise or mimic how a bushfire dynamically responds to changing fuel, terrain and weather inputs as a fire moves across the landscape. Uniquely, Phoenix includes a convection and spotting model which seeks to capture how the lofting of firebrands or embers in convection columns plays a major role in the propagation of fire. Embers are also a major cause of house loss during a bushfire.

The development of Phoenix began in 2005 between predecessors of DELWP, the University of Melbourne and the then Bushfire & Natural Hazards CRC. We have continued to invest in and improve the model since then. It certainly progressed extensively in 2008 after we really did some quite comprehensive end-user training and we really began putting the model into operational practice. It has been progressively tested. It has been progressively refined, particularly using data from real fires such as the Black Saturday fires of 2009.

What does Phoenix do? It helps us to understand fire behaviour — how and where bushfires are likely to spread. It also helps us to estimate the potential impacts. Importantly in the context of our fuel management program, Phoenix can also be used to test the effectiveness of different fuel management treatments on reducing the impacts of bushfire. In appendix 1 of our submission we provide a case study on the Tallarook-Mount Hickey fire, and I have a Phoenix simulation here that I can run through at the end of this presentation if the committee is interested in seeing that.

While fuel management does seek to reduce the risk of bushfire, there are undoubtedly impacts associated with fuel management, in particular planned burning. While some fire is natural within our environment and many ecosystems in fact depend on fire, it can also have negative impacts on biodiversity and on ecosystem services. So DELWP and Parks Victoria actively plan for and monitor those potential impacts, particularly of our activities on environmental values, on ecosystems and on other community values such as vulnerable people, industries, grape growers, apiarists and tourism and recreational users of our forests. Chapter 6 of our submission certainly goes into detail on how we manage the impacts of fuel management, particularly of planned burning.

I will now hand back to Adam to take you through the remainder of our presentation.

Mr FENNESSY — Chair, if it is okay with you, I will go through this quickly so we can get to your questions and we will see if you want to see a run of the Phoenix model, because that will probably tell you a lot more than what you will see in writing.

The next slide looks at safety. This goes to chapter 5 of our submission. The summary is that the safety of people is focused on the government workforce, our firefighters in the field as well as the safety of members of the public. Safety is the absolute priority in everything that we do, so we have put a lot of work into the operations and systems around safety for firefighters as well as the engagement and safety for community in and around fire incidents.

In our organisation wellbeing and safety is one of our four key priorities and values, and that goes to staff training, plant and equipment, maintenance, very thorough reporting and investigations and so on. For the community, engaging in safety is about public meetings, doorknocking, letterbox drops and using technology, websites, SMS and email to engage with community members in and around fire season preparation and indeed

throughout the fire season. There is also the planned burning notification system that we use, which goes to the broader issues, particularly across the regions of Victoria, around traffic management plans, road closures and variable message signs, and this goes back to that broader emergency management. Safer and more resilient communities are the safest protections that we can offer across the state.

That is some brief remarks about safety. The next slide goes to how we work across the emergency management sector. I have talked already about *Safer together* and particularly around fuel management. It is a very important way that we can work together with others, including not just Parks Victoria but the CFA, to build capacity and capability for the delivery of fuel management activities. This has been particularly successful in the last couple of years, where we are doing a lot more planned burns across tenure and involving others, including CFA volunteers and staff. That builds the broader understanding within the community and across the emergency management sector. So that is a couple of quick comments on that slide.

In terms of DELWP itself, this is picked up in chapter 7 of the submission. Without going through every aspect there, you can see we have built it into our corporate plan. We have significantly realigned our organisation to put a focus on an integrated Forest Fire and Regions Group, which Lee leads. That was very much as a result of what happened late last year with the Lancefield escaped planned burn that got out of containment. As a result we commissioned an independent review of that and accepted all the recommendations of that review. One of the observations is that our organisation was not as integrated as it could have been around fire planning, engagement of community and then delivery. So that is now fully integrated within one part of the organisation, including the reporting line of the Chief Fire Officer direct to me for fire response and planned burning operations. And we have just appointed six new Assistant Chief Fire Officers across our six regions so that we have got that place-based accountability and delivery as well as the coordinated approach through the organisation, the chief fire officer and myself. That is very important because fire emergency management takes place at a landscape level, and having regional leadership is critical to the decision making, particularly how we work with communities, the CFA, Parks Victoria and our partners across the state.

My last slide goes to future opportunities and challenges. Particularly under *Safer together*, partnering with communities is a big opportunity to tap into local knowledge about local landscapes and to deliver our planned burning program far more closely with the community, including openly engaging with the community on where we should do planned burns, how we tap into local knowledge, which is multi-generational, around parts of local landscapes to do planned burning and also how we work with the community to actually deliver that. That also creates a challenge for government and for DELWP, because we need new skills to better engage with the community. That is something we should always be doing. In fire and emergency management that is a particular priority for us.

Then the final point there goes to what Lee was saying before: we are very much looking at low-impact, high-value fuel management. A classic example of that that we have discussed with other committees of the Parliament, including PAEC, is that for large fuel burning targets we could burn a lot of landscape in parts of the state where not many people live. Does that really reduce risk? This was very much what Neil Comrie commented on as well as the Inspector-General of Emergency Management. So you could do a large burn in, say, the Wimmera-Mallee, and that may not reduce risk in any way compared to a very small, specific burn in the Otways or the Dandenong Ranges or the Yarra Ranges. So that is very much the example of low-impact, high-value fuel management on both public and private land.

So that, Chair, is a summary of our submission as well as some of the key points. Through you, Chair, we do have a simulation of the Tallarook-Mount Hickey fire extent — either now or later on in the presentation — if you think that will be of use to the committee.

Ms SHING — How long does it go for, Mr Fennessy?

Mr MIEZIS — Less than 5 minutes, I would say. It is only short.

The CHAIR — Do you want to do it at the end?

Ms BATH — Shall we do it now?

Ms SHING — It might lead to more questions. I think now would be preferable.

The CHAIR — Do it now? All right. I am happy.

Mr FENNESSY — So happy to do it now? All right.

Visual presentation.

Mr MIEZIS — While the graph is being set up, I just might put a bit of context around this fire. The Tallarook-Mount Hickey fire started approximately 400 metres to the north-east of the Mount Hickey fire tower in the Tallarook State Forest at around 2.00 p.m. on Tuesday, 6 October. The weather conditions on that day were extreme and unseasonal. At 2.00 p.m. the automatic weather station located near Mangalore recorded the following readings: temperature was at 35 degrees; relative humidity was at 8 per cent; wind speed and direction was north-westerly at 55 kilometres per hour, gusting up to 81 kilometres per hour; the drought index was 88; and the forest fire danger index was at 114 — that is Code Red.

The graph here — if you see, the black area there shows the actual extent of this fire; the blue area shows the planned burn that we had undertaken. What you are seeing come across the screen now is the simulation of Phoenix. Watch the fire grow. Unfortunately it is somewhat obscured by the black area. But what Phoenix does do in this case is quite accurately predict the extent of the fire and the spotting. You might see over to the right of the screen that there is a spot fire that was about 11 hectares in size. In terms of the fire itself, the observations that were made on the site are that the fire slowed considerably when it reached a planned burn that had been undertaken in autumn 2015. The northern section of that planned burn had fairly incomplete coverage in places, so the fire did pick up and run a bit harder through that part. But the evidence from both our models and from on-ground observations is that this planned burn clearly impacted on this fire. If I show the next slide — —

Ms SHING — Is that a mix of private and public land, or is that all public?

Mr MIEZIS — This was all public land — the Tallarook State Forest. So the final fire size was 557 hectares. The fire itself was contained solely within the Tallarook State Forest, so no properties were affected by this fire. If we run the model and we take the planned burning — that blue area — away, the model will start shortly and re-run without planned burning. So you can see that the size of the fire is considerably larger. The spot fires go considerably further. As the model runs, the Phoenix model, when planned burning is excluded, shows that the extent of this fire — until midnight on 6 October — included a burnt area of about 7500 hectares. So that is 557 hectares with planned burning, 7500 thousand hectares without.

The model shows that approximately 65 properties were identified within the model burnt area or in surrounding areas affected by a high density of embers. The model fire, without the planned burn, burnt most of the Tallarook State Forest. It burnt a pine plantation to the east. It impacted on settlements along the Goulburn Valley Highway, King Parrot Creek and also to the north of the Goulburn River, running up towards Mount Eaglehawk and Cherry Tree Range. So the Phoenix modelling, along with our field crew observations, indicates that planned burning markedly reduced the size and intensity of the fire. It had an effect on mitigating risk to life, residential property and other community assets such as livestock and environmental values in the immediate and in the surrounding areas, in addition to providing a much safer work environment for ground crews to fight this fire.

Ms BATH — Mr Miezis, in relation to that, can you superimpose fire trucks and fire response into Phoenix, or is it just like a burn without anybody reprimanding or stopping the fire?

Mr MIEZIS — We can put different scenarios, suppression scenarios and planned burning scenarios, into the model, so we could simulate it if we put, say, fuel breaks into the environment — what impact would that have.

Ms BATH — So this one here was unabated?

Mr MIEZIS — Yes. For simplicity we took out suppression and just concentrated on the impact of planned burning as opposed to different suppression strategies.

Ms DUNN — So this was an actual fire?

Mr MIEZIS — This was an actual fire.

Ms DUNN — So what did the actual fire do?

Mr MIEZIS — Five hundred and fifty-seven hectares contained within Tallarook State Forest.

Ms DUNN — Was that that darker area?

Mr MIEZIS — Yes, that darker area.

Ms SHING — What role did suppression play in the way in which that fire was contained?

Mr MIEZIS — Suppression certainly played a big role. We would say that the planned burn, given it slowed the intensity and rate of spread of that fire, certainly made suppression a lot easier and a lot safer for our crew. So the two become interrelated when we are in a bushfire situation.

Ms SHING — So in terms of suppression as it occurred within that actual fire, the planned burn would have prevented the spread from occurring in the way that the second model indicated, but the other part of that, the other side of the coin: what role did suppression play in further hindering or managing the spread beyond what the planned burn provided for?

Mr MIEZIS — We have not factored that into the model, but certainly it would have played a big role. What we have done is we have equalised, if you like, or made same the suppression strategies in both the model without planned burning and the model with planned burning to take suppression that out of the equation.

Ms SHING — But it certainly makes a material difference?

Mr MIEZIS — Yes, it does.

Mr FENNESSY — Yes, and that is a good point — that particularly when we are responding during the fire season we model without suppression to then inform how we best target suppression, both aerial and fire trucks.

The CHAIR — All right.

Mr FENNESSY — Thank you, Chair. We thought that that would give you a more tangible example of what it is all about.

Ms SHING — It has sparked a few questions already.

The CHAIR — Thank you. Mr Fennessy, I have got a couple of prior questions and then some points about some response matters. First of all, page 11, submission parties DELWP, Parks Vic., Melbourne Water, VicForests, Country Fire Authority and Emergency Management Victoria, all into one submission, prepared, if I am not incorrect, according to the guidelines for the preparation of submissions 2002 — yes?

Mr MIEZIS — Yes.

The CHAIR — So there would have been prior materials come from those agencies. You and I both know that agencies do not always see eye to eye on every single matter, so it would be helpful to actually see the submissions that have come from those agencies. I wonder if you might provide those, not now of course, but — —

Ms SHING — Are they draft documents, though?

Mr FENNESSY — We could certainly take that on notice and work out what the process was and what the status of those documents were.

The CHAIR — It would help us because Parks, Country Fire Authority and Melbourne Water all have different interests and different views. I know your job is to harmonise all those and come up with one position, but the truth of the matter is they do not have one position, so that would be helpful.

Ms SHING — I will take that as editorial.

The CHAIR — It is a point. I just want to get to the truth.

Ms SHING — I am just pleased we are talking about bushfire preparedness instead of union negotiations for once.

The CHAIR — That is right. I do want to ask about the submission with respect to resourcing and preparedness and the fire and emergency management roles. It is a fact that DELWP employs a number of permanent firefighters. What is that number?

Mr FENNESSY — Lee, can I get you to — —

The CHAIR — It goes up and down; I know you have a permanent group and then a summer group, as it were.

Mr FENNESSY — That is right. We have a standing permanent professional forest fighting contingent and every summer the project firefighters are brought in, and last summer, for example, we brought in more. Lee, do you have access to those numbers?

The CHAIR — And Parks is part of that too — both separate and related?

Mr FENNESSY — Correct. In terms of the forest fire fighting standing force, we include Parks in those numbers; yes.

Mr MIEZIS — So the department has three categories of firefighters, and around 3000 in total - 600 permanent firefighters; around 600 what we call seasonal firefighters or project firefighters, and that number can fluctuate depending upon conditions, so it could go anywhere up to about 700; and then we have the broader cohort, of employees within the department that have a fire role in addition to, if you like, their day job, for want of a better term — for example, myself. During a fire response situation I will go into the media booth in the state control centre and do media and public communications. There are about 2000 people who have that type of role.

The CHAIR — How many of those are actual direct frontline firefighters? Is that the 600 plus 600, approximately?

Mr FENNESSY — Chair, through you, in terms of year-on-year, for 15–16 the first number relates to DELWP, PV and partner organisations staff with authorisation to perform a fire or emergency management role, so they are our forest fire standing force. For 15–16 it was 1959, and then the additional project firefighters were 669, so that total for 15–16 was 2628. For this forthcoming summer we are currently recruiting, inducting and training, so we do not have the final number. We will report back on it subsequently. But for the last few years the numbers have been of that order — 2628; just below 3000. Depending on the seasonal outlook in September, so next month, and that comes from the — —

The CHAIR — BOM?

Mr FENNESSY — The BOM and the bushfire and natural hazards CRC. We then adjust recruitment. Last year when we got that outlook that it was going to be an above-average season or a difficult season we increased the intake of project firefighters to augment those numbers.

The CHAIR — And those numbers, those staff, are employed on what award — what is the industrial arrangement there?

Mr FENNESSY — I will comment in general, and I will see if anyone needs to be more specific. We have two cohorts within DELWP. We have field crew fire services officers, who are employed under an EBA with the Australian Workers Union, and then we have other forest fire staff who tend to be more in the planning, decision-making, who are employed under an EBA with the CPSU. The project firefighters, the top-up staff, tend to be more AWU award. So it is two unions to cover the total of those staff.

The CHAIR — Have you done any modelling about the likely flow-on or impact of the current EBA negotiations and likely outcomes with the UFU and the CFA and whether that would have any impact on your industrial arrangements?

Mr FENNESSY — So what we have done — and again I will get others to comment if need be — is primarily our responsibilities are literally through the Secretary for public land, so that is where we model our risk, including through the risk reduction target Lee has talked about, so we focus on that. We do not do further modelling for other firefighter agencies. Those other agencies will be the CFA, the MFB, Melbourne Water, VicForests and also Hancock plantation staff, so we do not model all of those other agencies because that is a much broader resource — —

The CHAIR — But I am asking about your staff. Have you modelled for your own staff?

Mr FENNESSY — We do model for our own staff, but for our public land responsibilities.

The CHAIR — So have you modelled the likely flow-on impact of the current proposed EBA?

Mr FENNESSY — Not for our staff, no — or not for our Forests Act responsibilities.

The CHAIR — Do you consider it will have any impact?

Mr FENNESSY — I do not, or we do not, because our responsibilities are very specific to public land and the Forests Act, which makes it a lot clearer for us to work up our resource base. How that flows through operationally is through the Chief Fire Officer and through Lee we do weekly preparation work, but that does not go to our approach. What we do model our approach on is the seasonal outlook from the bushfire and natural hazards CRC.

The CHAIR — But you do not believe it will have any financial impact on your staff at all if there is an EBA signed with additional costs in the CFA?

Mr FENNESSY — I think for us, looking ahead to the 16–17 season, we do not.

The CHAIR — Right.

Mr FENNESSY — No, because our EBAs are agreed to, and under a very specific legislative approach I have to be accountable for the forest fire component and not for the non-forest-fire component.

The CHAIR — We had different evidence from Hancock, who also have staff employed with the AWU.

Mr FENNESSY — Yes, but they are private forest.

The CHAIR — But they are still under similar awards.

Mr FENNESSY — Yes.

Mr MIEZIS — There are differences. Hancock's are in effect an industry brigade that operate under the Country Fire Authority Act as opposed to departmental staff or Parks Victoria staff, whose responsibilities are executed under the Forests Act, so legislatively quite different. As Adam mentioned, we have settled the new EBAs with both the CPSU and the AWU.

The CHAIR — With no flow-on whatsoever?

Mr MIEZIS — We have just settled the agreement, so no.

The CHAIR — Right. That is what I want to hear. The second point on this is obviously where there is a significant forest fire all of the agencies work together — your staff and the CFA and potentially MFB and others. Have you looked at the impact of the proposed CFA EBA on the interaction with your staff?

Mr FENNESSY — We have not, and the main reason is because my legislative responsibilities are to Crown land, so we know that interoperability — —

The CHAIR — With the greatest respect, fires will go across both private and public land.

Mr FENNESSY — They do, and the whole *Safer together* looks at how we work with not just CFA or MFB but with the community. To model the input from the community as well as other firefighting staff, it

would not make sense for me to account for my Forests Act responsibilities, because *Safer together* is not just about how we work interagency; it is very much all communities. What we often say in our organisation is that we have moved from all agencies, all emergencies to all communities, all emergencies.

The CHAIR — So when the fires are crossing public and private land with a number of different agencies, including your firefighters, you have not assessed whether the CFA EBA could impact on the ability to fight fires?

Mr FENNESSY — We have not, and the reason is because we do not just rely on the CFA.

The CHAIR — No, no; I get that.

Mr FENNESSY — We rely on community resilience and preparation.

The CHAIR — It is one factor though.

Mr FENNESSY — It is one factor, and it is a much more distributed factor. What we have learnt internationally — and this is why I referenced FEMA — is that international best practice is not just interagency. If we modelled an interagency scenario, we would be missing a significant community cohort.

The CHAIR — I accept that it is a cluster of community and different agencies, but if the arrangements in one agency are changed, that is going to actually have an effect across the whole gamut.

Mr FENNESSY — I am often reminded by my own general counsel that our primary objective under legislation is the Forests Act, and then the all-emergency scenario is how we engage with a multiplicity of agencies. If we have to do any modelling, we would have to model probably about eight agencies.

The CHAIR — If the response of one of those agency's changes, that is going to impact your overall capacity?

Mr FENNESSY — It would then depend on other agencies, so not necessarily. It would depend on Melbourne Water, VicForests — —

The CHAIR — But you have not assessed it?

Mr FENNESSY — We have not assessed it, because in the lead-up to 2016–17, from our work with other agencies, we are satisfied we have got the right resource level. That is based on the weekly interactions with all of those other agencies. If we thought there was an increased risk for the forest estate, I would be obliged to assess it. Based on more specifically about the last 10 years of fire season preparations, we have modelled that. The main impact that would change our approach would be the seasonal forecast.

The CHAIR — From the information we have heard at various other hearings, you might want to assess it. My further point is — —

Ms SHING — Other evidence confirms what you just said however, though.

The CHAIR — No, it does not actually. It does not actually.

Ms SHING — Mr Warrington — —

The CHAIR — You can wait for a moment for your question.

Ms SHING — It is all about verballing other witnesses, Chair.

The CHAIR — The key point I want to follow with here relates to perhaps a longer term question about your agency and its predecessor agencies. I think one of the reasons — and I am perhaps editorialising a little here, but I am interested in your response — over a period, particularly after 2009, that people wanted to see very firm targets is that some of the predecessor agencies to your body had been, I would put, lax in prevention and burning over a longer period, decades perhaps. How do we have that confidence that if you move to a new model — with the greatest science in the world — it does not become an excuse to return to old ways?

Mr FENNESSY — That is a critical question. It is the question. And Lee did say in his presentation that while we now have a 70 per cent risk reduction target, which we will measure against, that translates through in our own internal planning to a range of about — —

Mr MIEZIS — Two hundred and twenty-five to about 275 000 hectares based on current understanding of risk.

Mr FENNESSY — I think we intend still to report on those hectares, because I think that is very important to maintain the confidence of the community. We will report as well on the, if you like, qualitative overlay — so where those hectares are — and keep modelling on the reduced risk to the broader landscape. It is incumbent on us to keep the confidence of the community, and working with the national cooperative research centre is one way to make sure that it is not just a Victorian approach, it taps into national best practice. We are very much committed to the full transparency of independent monitoring of the Inspector-General of Emergency Management and reporting on that. I know we have spoken to other committees of the Parliament, and this is particularly the accounts and estimates committee, that I think for three years running in the lead-up to the *Safer together* report, it was Neil Comrie urging us to take this approach.

There was the combination of that plus this report, and then the other thing we did to assure ourselves that we were not letting ourselves off the hook is that we went back to the same experts that advised the bushfire royal commission. I think down to a person it was Professor Tolhurst and others who came up with the 70 per cent risk reduction target. That work we have done over probably about the last two or three years, which I think is important to take it out of the shorter term cycle. It is incumbent on us to keep the confidence of the public, and anecdotally the public is seeing the sense in moving to the higher risk areas where there are more people who live there, so the growths suburbs in and around high bushfire risk landscapes, but it is also the quantitative measurement that is going to be critical for that. That is the broader story.

Ms SHING — Thanks, gentlemen, for that presentation, and in particular for the modelling that you have shown us on the Phoenix operation as it applies to understanding the way in which preventative measures can impact upon the spread of fire. I would like to go to some of the issues that you have touched on in that submission and also in answers to earlier questions from the Chair. And at the outset, I must say that I am grateful for the fact that we are at last talking about substantive operational impacts on bushfire preparedness and getting ready for a summer season which starts earlier, goes for longer and has a greater impact upon the environment, communities, biodiversity and other things. It is one thing which we are glad to actually be coming to the point of.

In relation to residual risk and the way in which you have referred to that in your submission at 3.3.4, I would like to understand how we actually model risk now and into the future to account for population growth and change, because as we know, and in particular Mr Mulino, Ms Bath and I represent areas of Gippsland, we are seeing enormous growth in subdivision of existing private land that abuts public land. We are seeing a greater set of challenges which have necessarily been looked at as part of *Safer together* in the framework of engaging communities and the tenure-blind issues around how we actually respond to emergencies that may pose real threats to life, livestock and property. So I would like to see how it is that residual risk and the Phoenix RapidFire modelling can actually take account of not just the way in which individual fires may take root and cast embers and change that landscape but the impact that population growth will have on parts of Victoria that might otherwise not have previously presented a significant risk in terms of the way it has been described in the reduction targets that are set.

Mr FENNESSY — Through the Chair, thank you for that question. From a whole of Department of Environment, Land, Water and Planning point of view, the two biggest risks we see in the emergency management space are climate impacts — changing climate, variability and the underlying dryness of the soil — and secondly population. So the latest projections from DELWP through Victoria in future are that we will have 10.1 million people in Victoria by 2051 — 8.1 in Melbourne, therefore 2 in regional Victoria — and particularly the growing communities in south and west Gippsland near the Strzeleckis, the Otways, the Macedon Ranges and the Yarra Ranges but also on the fringes of Melbourne in the growth areas in grassland and higher risk areas where we have seen fires, and that is where we have populations in the tens and hundreds of thousands, so that is a significant risk. So they are the two streams of modelling. In particular fires in more recent times like the Wye River fires last year, where we see those extended coastal communities and again the

population risks associated with that. They are the broader risks of climate and population. How that goes through the model, I will ask Lee, Chair, if that is okay to comment on.

Mr MIEZIS — I think there a couple of points to make. When we look at how we reduce risk, it is not just looking at pure management in those interface areas with communities. It is important that we also consider the more remote areas. I think that Tallarook-Mount Hickey showed that, which can then slow the spread the intensity of fires before they start impacting. So when we look at how we reduce risk, we look right across the landscape. To your specific point around population growth and changes in demographics, I think there are a couple of ways that that is input into the model. Firstly, at the likelihood part of the model, obviously conversion of industrial land or forest land into more residential changes the fuel and therefore changes the behaviour of the fire, so we are able to update and continually refine the vegetation models that sit in behind that model to take that into account. Secondly is the consequence part of the model. So when we talk about consequence and we talk about risk, we use house loss as a de facto, if you like, for impact on human life. Obviously with the change in population, the more built-up traditionally rural or regional areas become, the greater the impact therefore and the greater contribution planned burning can have in those areas to reducing overall residual risk.

What we do know at the moment when we look across the state is that the bulk of our bushfire risk sits within the ring around Melbourne. In our submission we talk to bushfire risk landscapes. In that sense I am talking about Barwon South West, the east central and the central west. Around 72 per cent of our bushfire risk sits within those three areas. As rural communities change, expand and grow with population change, that may shift, but it is a dynamic model that we continually update with changes to vegetation and changes to population.

Ms SHING — I might also use that to springboard into issues of management of fuel loads and the way in which fuel reduction is a challenge. We have heard previous evidence from witnesses in relation to preferences around use of Aboriginal land management practices, the use of incendiaries. Stripping has been another process that has been brought to our attention in the course of witness evidence here. It seems that there are a number of methodologies, all of which have their pros and their cons. So I would like to get a sense from you as to what the thinking is around how to make the best use of fuel reduction methods, and then I would like to get a sense from you about the impact of changes to water storages on the way in which we manage fire weather through fuel reduction or as a responsive effort, particularly given that we are coming out of a winter with water storages that are in fact, I think, about 6 per cent lower than they were last year.

Mr FENNESSY — My starting comment is that, as you will know and you have probably heard from others and from our submission, our fuel management and reduction involves planned burning but also slashing, clearing land and in some cases chemical treatments of landscapes, so it is a broad range. We judge those according to their effectiveness and very much according to risk to property and values. We also take into account community values, environmental values and traditional owner cultural values.

Ms SHING — Which will vary enormously throughout the state, obviously.

Mr FENNESSY — Which do vary enormously. In the example of the traditional owners, we actually are partnering with lots of traditional owner corporations and registered Aboriginal parties, training up staff. I live in Bendigo. In the Bendigo region we are working with the Dja Dja Wurrung Clans Aboriginal Corporation. Some of our firefighting staff are Dja Dja Wurrung people, and Parks Victoria does this to an even greater extent than us. So that is a way of tapping into local and community knowledge — whether it be farming communities, Aboriginal communities or environmental interest groups — about different landscape risks. That is the broader story. Again, through the Chair, I can get comments from Lee or Darrin on the specifics of your question.

Mr MIEZIS — I might just add to that and perhaps operationally throw to Darrin. There are two key points I would make. It is kind of local solutions to local situations, really, and part of our approach is to engage more closely with local communities to understand what works best for them in terms of reducing bushfire risk.

Ms SHING — Under *Safer together* or generally?

Mr MIEZIS — Certainly under *Safer together*, and it is certainly an area that Lancefield showed a need for us to improve on, and that is where a big focus is.

On the other point in that vein, Adam talked about planned burning not being the only way to reduce bushfire fuel loads across the state. Planned burning is not the only way of reducing bushfire risk or fuel management is not the only way of reducing bushfire risk. It is how we work with communities in terms of their own preparedness and what we do on public land, be it through education programs or good community-based planning, so there is a whole range of activities that we can do with communities, with partner agencies to really focus on risk. That needs to be driven by communities and with communities. That is not about us shying away from our legislative responsibilities. It is about understanding that fundamentally we are about protecting life and protecting property and protecting the things that communities value most, and they need to be at the table with us inputting and making those decisions together.

Mr McKENZIE — Just from an operational perspective, you have heard about burning as our primary tool for reducing fuel, and it being for really two reasons. One is about reducing risk, but we are also burning for ecological and environmental outcomes. It is really important that when we are undertaking those burning operations that we are burning under a set of conditions and using lighting techniques that are going to meet the objectives we are trying to achieve, so we are burning at the right time of the year and we are using lighting techniques that mean that we are not going to be burning things too hot and causing damage to the environment where we have got a fire running up into the heads of trees and burning out crowns and stuff like that. So it is really important that we actually do adopt the correct lighting techniques when we are undertaking planned burns.

You talked about some of the aerial ignitions. We do use aerial ignition quite a bit. We use the little ping-pong balls which you are probably all aware of. It is really important, and a lot of skill and knowledge goes into setting up what the right lighting pattern is to make sure that we are not putting too much fire into the landscape, because it does come with risk. It comes in terms of risk to the safety of community, but it also comes to risk to the environment if we do not get it right.

Ms SHING — This is a process of continuous improvement. I mean, we will never get there, arguably, because it sounds to me like the work is never done at getting better at it. Is that a fair comment?

Mr FENNESSY — We use a lot of aerial techniques for both planned burning and suppression. Because of innovation we have started investing in some pilot technology with remotely piloted aerial systems, which are otherwise known as drones. So we are doing a pilot including in the US and with the Civil Aviation Safety Authority in Australia. How do we use new technology — they call them RPAs — like drones to monitor planned burns, to monitor their effectiveness and their risk, and indeed how do we use those potentially for a response? So it is continuous improvement. No-one was talking about using drones a few years ago. In fact we learnt from the agricultural sector, that large agribusinesses use drones to see how their crops are taking. So we are taking the same technology out as well as the traditional aerial firefighting and the old-fashioned rake-hoe and ground-based crew.

Mr MIEZIS — If I can just add to the continuous improvement element, certainly it is a big part of what we do — after-action, after-incident reviews, continually feeding back at an operational level about how we can get better. We also have quite sophisticated monitoring, evaluation and reporting systems that look over the whole system that measure our effectiveness, look at our impacts and look at our overall performance. They are reported annually through an annual report — so publicly, so people can really see how we are performing — and ultimately close the loop back in to improving our policies and improving our procedures.

Ms SHING — Thank you very much, gentlemen.

Ms TIERNEY — In terms of local capacity and local solutions, I could not agree more in terms of bushfire preparedness. But if we were to pop our heads over our respective state borders, where do we sit? Where does Victoria sit in terms of bushfire preparedness compared to other states?

Mr FENNESSY — My comment is that we have got a very strong network of interstate learning, and we do a lot of our work through the bushfire and natural hazards CRC as well as through AFAC, the Australasian Fire Authorities Council. So we do a lot of work, particularly with Tasmania, New South Wales, South Australia and New Zealand, because they tend to have more similar landscapes. We also do a lot of cross-recruiting and secondments. Then during the fire season itself, as you would have seen, there are a lot of deployments in both directions. So that process shares a lot of the learnings for response. We also do similar for preparation. So in

general we are constantly working with our interstate and indeed our international colleagues. Earlier this year we were over in the US and we were in Canada, and they sent people out here, so it is not just interstate.

To go to your specific question, 'How do we stack up against, say, Tasmania, South Australia and New South Wales?', I might get Darrin or Lee to comment, because they are the ones that do the work, if you are happy, Chair?

The CHAIR — Well, briefly.

Mr MIEZIS — I will not give the parochial response, but certainly I would say that, as Adam said, we work very closely. It is about learning from one another. There are areas that we are very strong in and certainly we would say we are world leading. In the use of Phoenix we have worked that into New South Wales, and in fact we are now partners with New South Wales in the continuing development of that system. So I think overall at a systems level we would stack up well against any other state. We have certainly got things that we learn from those states, in the same way that other states learn from us.

Ms TIERNEY — And if there were three things that you would like to see some immediate improvement in in terms of systems, what would they be?

Mr FENNESSY — In Victoria?

Ms TIERNEY — Yes.

Mr FENNESSY — The main one for me is our ability to deepen that community engagement in both directions. An example is we now go to community meetings and run fire Phoenix models and say, 'This is where we think we will do the planned burn. Where do you think we should do it?'. That often comes with a sense of risk because government decision-makers often think, 'We might know best'. In fact local communities will know their landscapes very well, so that is one where we are very much looking to improve — that real community engagement model and working with people who know their land and their country very well. So that is one area that I can suggest.

Mr MIEZIS — Yes, I would add to that probably the continuing harmonisation of particularly outward-looking things — so how we describe fire risk in New South Wales, Victoria or South Australia needs to be quite consistent because, particularly in summer, you have got a lot of tourism and people travelling across borders.

Ms TIERNEY — Yes, the same language.

Mr FENNESSY — So we have code red, they have code black, and things like that are not helpful.

Mr MIEZIS — Yes. So things like that, even simple things such as symbols on computer systems that people look at to see where fires are. If they are consistent, it just makes it easier for people.

Ms TIERNEY — Thank you.

Mr McKENZIE — I think, from an operational point of view, some of the tools that we have got now around our improved risk assessment processes, some of the work that has been done in smoke modelling, allow us to manage and minimise the impact, particularly of smoke. We have got a new fuel management system about to come out, which should hopefully streamline and make the planning and risk assessment processes more efficient for us, from an operational perspective.

Ms TIERNEY — Thank you.

Mr RAMSAY — Thank you. I just want to take the opportunity to say thank you. I was involved in the Wye River fires, and you were stationed at my little home town of Birregurra. I think there were 500 DELWP firefighters there, and we certainly appreciated the support you gave. The question I want to ask is perhaps about the work that you did with the local CFA. Roy Moriarty down there was the CFA captain, at Wye River, and worked very closely with DELWP. In relation to that fire what experience did you learn in relation to the previous burns that you did to try and protect those townships of Lorne and Wye River specifically? How far

ago were they burned to protect the communities, given the devastating nature of the fires down there at that time last year?

Mr FENNESSY — Thank you for that question, and you are right, we had a tent city at Birregurra, and it had an immediate local economic impact, to get staff in there and then get them close to the fire. Going to your question, we have an eMAP database that maps all of the previous planned burns, and looking at, firstly, around Wye River, and then secondly, more broadly up the coast, there was an annual succession of burns. A big challenge for us always is getting in to do the high-risk planned burns in landscapes like the Otways, where it is quite wet and then it will dry out very quickly. With the Otways sometimes we have a window of planned burning of less than a week, and I know in the case of Wye River some of our scheduled planned burns, one of them, was about to commence the day after and it rained, so that is the challenge. But to go to Wye River more specifically I will get Lee to comment on that, and Darrin.

Mr MIEZIS — Yes. As Adam said, the Otways is an incredibly difficult area to do planned burning in. It is wet forest, it is steep terrain, it is rocky, so you get a very small window before the fuels dry out to the point where it is too risky to undertake those burns. So certainly a lot of preparation is required to go into that area. We did do two burns, or we had planned to do and had in fact started preparing for two burns around Wye River in autumn 2015. What had happened was rain on the day before the burns were planned, which put it too wet. Then it was delayed, and it became too dry very quickly. So I think the key lesson around the Otways is really thinking more about what are the actions and activities you can take that are not just about planned burning to prepare these communities. I think a lot of work had gone in with the Wye River community, and how the evacuation of those communities was executed pays evidence to that good work and the benefit of really thinking about planned burning as not being a panacea in terms of reducing fire risk but part of a broader range of activities that can be undertaken to ultimately protect communities. That is a long way of answering your question, but thinking beyond just planned burning is critical. I think we are doing that and certainly *Safer together* pushes us in that direction.

Mr FENNESSY — Through the Chair, the example around Wye River was the Kennett-Wye Jeep Track burn. We had planned that for quite a long time, and that was linking to a planned burn from 2012. It was an integrated landscape approach, and we were all the way up to the night before. I think 26 March 2015 we were ready to go to ignite that burn, and then overnight there was 6 millimetres of rain. That is the challenge with planned burning in some of those wet landscapes. Then I think we waited again. We will just keep waiting and wait for the burn.

In some parts of the state we may literally have to wait for four or five years. We did an Arthurs Seat burn — different part of the state — and I think that was four years in the planning because we literally have to wait for that two-week envelope or window and hope it does not rain. That is a bit about both Wye River and about these higher rainfall parts of the state.

Ms DUNN — Thank you, gentlemen, for your presentation. There are a couple of areas I want to explore. The first is around when you are planning what areas of Victoria might require a planned burn and assessing risk, is part of that assessment looking at the ecological vegetation class, the impact on biodiversity and the potential to change that EVC into the future, therefore making it a more fire-prone environment, rather than maintaining a certain level of fire prevention, which some EVCs do? I am just wondering if that is considered as part of the planning and modelling, particularly into the long term. I guess where I am headed is: are we changing the nature of the EVCs across Victoria that are putting us more at risk?

Mr FENNESSY — I will get Lee to comment on that because that is a technical and important question.

Mr MIEZIS — Certainly maintaining and improving resilience of natural ecosystems is a priority for DELWP. It is one of two objectives in our code of practice for bushfire management on public land — the first, of course, being to minimise the impact of major bushfires on human life, communities, essential and community infrastructure, industries, the economy and the environment, with human life being afforded, of course, the highest priority over all other considerations; the second objective being to maintain or improve the resilience of natural ecosystems and their ability to deliver services, be they biodiversity, water, carbon storage, forest products or other. Those two objectives drive all of our work, including our fuel management programs, so they are a key consideration in what we do.

The specifics of thinking about the flammability of particular EVCs and the appropriate fire regime for those EVCs is a big consideration that we have. We measure that through what we call tolerable fire interval, which is the minimum and maximum interval between fire events that a species or an EVC can withstand to maintain proper and full ecological function. We measure that. What we do know is that a large proportion of the state is below tolerable fire interval, largely as a result of major fires that have occurred.

While that is a consideration, just because an area is outside or not within its tolerable fire interval does not mean that we do not go in there and do some treatment, and if you think about the major fires in 2002 or 2006–7, particularly in the ash forests, which have just created in effect a monoculture of similar age class species, what we would be looking at in fuel treatment is how we get more of a mosaic within those areas. Certainly in some areas that are outside of tolerable fire interval the accumulation of fuels is so quick that we need to go in. We need to do that carefully, and we need to think about the environmental impacts, which we do. We do that at a strategic level through our planning, and we also do it at an operational level through the timing of the burns, avoiding, say, key flowering times or, for animal species, breeding times. It is factored in at a strategic level and at an operational level, and it is something that we measure, monitor and report on annually which then informs our practices.

Ms DUNN — It sounds from your answer that the planning and what happens on the ground is not modifying our environment to the point that it is making it more fire prone — just the way the vegetation is being managed or possibly changed.

Mr FENNESSY — Some of this goes to Darrin's earlier answer where we will do what we call a cooler burn so it is not impacting the crown of trees. There are two points I would like to add, if I may. We work very closely with the commonwealth environment department about our obligations under the Environment Protection and Biodiversity Conservation Act so that we make sure that our planned burning program itself is compliant. A very good practical example of the challenges of fire and threatened species is: in the summer of 2013–14 we had a big fire in the Bronzewing Flora and Fauna Reserve up in the Mallee. That was a lightning strike fire. The Malleefowl is a threatened species, and that fire burnt 95 per cent of that flora and fauna reserve, a big reserve, so the habitat for that emu-wren was mostly destroyed. If we did more mosaic burning, we could potentially minimise that fire impact. So planned burning, while having specific impacts on environment, can also protect species far more broadly, and a lot of our planning in and around the Central Highlands —

The CHAIR — Catastrophic fires.

Mr FENNESSY — From catastrophic fires, and in that case it is a lightning strike in the Mallee so if we do not do planned burning in that flora and fauna reserve, there is a risk that there will be a lightning strike and —

Ms DUNN — It is a risk to the species.

Mr FENNESSY — Yes. This then goes to the work — whether it is the Mallee, desert ecology or the Central Highlands, we have to look at the impact of fire on the longer term quality of those habitats. Once again, if we are not doing any management, a big wildfire from lightning could just take out the whole environment. That is the challenge, and we work with the Commonwealth Government to make sure we are tapping into best knowledge around that.

Ms DUNN — Thank you. I noticed in your submission there is a section on DELWP and VicForests and how those two agencies work in together. It is on page 19. It talks about DELWP assisting with regeneration burning, and I am interested to get an idea of what that assistance looks like. It also talks about VicForests assisting DELWP to achieve a fuel reduction program according to the terms of a bushfire management agreement, and I am also interested in understanding how that works. So it is really two sides of the coin.

Mr FENNESSY — I might ask Lee and Darrin to comment on that.

The CHAIR — Briefly, please.

Mr MIEZIS — Thanks. VicForests, in terms of its contribution to the firefighting effort, obviously has skilled staff, contractor resources for fire suppression, and we do have a DELWP-VicForests bushfire management agreement in place. VicForests aims to maintain fire accreditation for at least 60 per cent of all

staff, including 80 per cent of its regionally-based staff. So staff that are fit for fire duties are rostered as part of the DELWP system and are available for immediate deployment to first attack for the duration of those first-attack operations.

VicForests's contracting workforce that provides harvest, haulage, road and silvicultural services, and is also available to assist in bushfire suppression if required. VicForests, as you identified, is required to conduct all of its operations in accordance with the code of practice for timber production, which requires a focus on regeneration of areas post harvesting, with regeneration burning being one way that that is achieved. VicForests primarily leads that operation, but we have an interest in terms of the broader management of risk across the public land estate, so we support it through planning systems and in other ways to make sure that the regeneration burning that it needs to do is done safely and as effectively as it can be. Darrin?

The CHAIR — We are really on a short time frame.

Mr McKENZIE — No. Look, I do not think there is too much more to add to that, Lee.

Ms DUNN — Just to pick up on those regeneration burns, I note for the last two years those regeneration burns have occurred at a time when it is grape harvest season. Does DELWP actually provide any input to VicForests about not clashing with what is a primary production area of the Yarra Valley?

Mr FENNESSY — We certainly do a lot of work with both the wine industry — —

Ms DUNN — Smoke taint is where I am going.

Mr FENNESSY — Smoke taint, yes. We do a lot of work with both the wine industry as the peak industry but also with individual wineries as well as longer term smoke taint research, which has been invested in for at least I think the last four years with the department of economic development and the agriculture function, and at DELWP ourselves we very much try to sequence for impacts on tourism, wine, harvest and even communities where we have known health issues. For VicForests, Lee, are you able to comment on your understanding of VicForests's approach?

Mr MIEZIS — Yes. Certainly DELWP has a number of round tables and other ways that we engage with key stakeholder groups, including the winegrowing industry. VicForests is party to those, so there is that interaction there. We provide them information, access to our tools on smoke modelling so they will be able to use what we have in place at the moment, but as Adam said, we are continuing to develop and improve our ability to predict smoke and how it will drift and impact across landscapes and therefore impact on particular industries.

We work very closely with the wine industry, and we do try and time planned burns outside of that grape harvest season. We provide them access to good information, but it is complex. Unfortunately the key time for grape harvest often coincides with that window that you have for doing planned burning, so there is necessarily a need for us to work very closely to minimise impacts as much as we possibly can.

Ms DUNN — Yes, and I am glad there is continuous improvement, because that is two years in a row in the Yarra Valley that they have suffered smoke taint on their grape harvest. In terms of the bushfire management agreement that you have with VicForests, would it be possible to get a copy of that, just to understand what it actually is?

Mr FENNESSY — Yes. We will take that on notice, yes.

Ms DUNN — Terrific, if you could table that. And my very last one: I was interested just in pursuing the issue of land use planning as a follow-up from Ms Shing's earlier question. I am wondering, given you have got those really key issues, particularly around population growth and changed climate, whether DELWP provides any advice to the Minister for Planning or his department in relation to issues of land use in high fire risk areas of the state.

Mr FENNESSY — We do, in short, and in particular the bushfire royal commission following Black Saturday made some very specific recommendations to land use planning, and now that the planning function is integrated within DELWP, we very much do that from our department. That included a range of things like bushfire management overlays that are in the planning system, to specific building requirements around

bushfire attack level ratings of houses, and there is also a bushfire hazard and biodiversity mapping project to get better information about veg classes across the state to put into the planning system, and also the more specific local government requirements that then go in, through the planning system, into how local governments undertake their approvals at the delegated level.

There is also a building regulations advisory committee. To give you a very specific example, right now in the Wye River community we are working very closely with the Colac Otway Shire Council for a one-stop shop approach for rebuild, because it is very complex, it costs money and it also makes the houses more resilient to bushfires, so it is a trade-off. So with that community, as some other members might know, right now we are talking about the trade-offs between a bushfire asset protection zone, which is basically cleared land, and whether that would help that community and whether they would like that in their landscape, and also the bushfire attack levels for each particular house. That is just one example around Wye River. But a planning system now has very specific bushfire management overlays post-2011.

Ms DUNN — Yes, so it is more about how people live as opposed to where people live.

Mr FENNESSY — It is about both. The ‘where’ is the broader bushfire management overlay, and then the ‘how’ is the standards around the houses.

Ms DUNN — Yes, sited within a landscape, providing that they have the defensible space and what have you.

Mr FENNESSY — That is right, and community understanding of how to keep a property cleared. The old 10/30 rules around keeping your immediate house safe — so there is a whole lot of both ‘where’ and ‘how’.

Mr YOUNG — I did have a couple of questions, but in the interests of time I can probably direct them to Parks when they come in, so lucky them!

I am glad you have just mentioned the rules around keeping the area around your house clear, because the one question I do want to ask is in regards to the cross-tenure approach: we have heard about it, everyone has talked about it and it has been indicated to us before that people on private land are not pulling their weight. To me, and in my experience, there seems to be a little bit of a stigma around private landowners and feeling like they are not allowed to clear their own land or that there are things that stop them, because they going to get fined for removing trees or vegetation and stuff like that. Have you identified an approach or any regulations, legislation or even internal policies around permits and things like that that may inhibit people clearing their own land? And what is being done about that?

Mr FENNESSY — There are some really important issues in there. I think, firstly, we have got to really respect private landowners and the knowledge they have about their land rather than create a stigma that they are not doing enough, and that may have been a perception in the past, so we have got to take that very seriously. A good recent example is the work we are doing in and around the Macedon Ranges, and this follows the Lancefield fire. The frustration a lot of private landowners often have is: do they go to council, do they go to us, do they talk to VicRoads?

Roadside clearance is a classic example, and we have done a lot of work with the Victorian Farmers Federation on this. Right now we are working with Macedon Ranges Shire Council on their municipal fire planning approach so that local private citizens do not feel like they get caught between council and state government. They are often the roadside manager; we are often the roadside regulator for vegetation, so that is a critical project that we are doing at the moment.

The other area where we have done a lot of work with local landholders is we have got a Mallee community fire group that we actually convened with Peter Tuohey of the VFF to make sure we talk to local farmers, local government and local environment groups, because otherwise people will get on a bit of a roundabout and not know who to talk to and not know who is accountable. So in many cases at the local area it is local government that is accountable for the roadside, to use that example. Local government is also in our portfolio, so we have got to work with councils to say here is the work we can help them with for them to finalise their municipal fire plans, and a lot of it is around the perceived and actual regulation about how you do roadside slashing when you are not sure whose land it is. We are working through councils that are having more challenges with their local

communities, so we can help and do that, and working directly with other interest groups. I mentioned the VFF before; we are doing work with them as well.

Mr MIEZIS — If I could just add to that, certainly there are exemptions under the planning permit provisions for fire prevention works, including periodic burning, fuel breaks et cetera. Those exemptions, which are under clause 52.17, including fire protection, are currently being reviewed for clarity and operability, so we are conscious of some of those issues that you have obviously heard and are keen to make sure that they work well. That review has been undertaken as part of a broader native vegetation permitted clearing regulations review, so we expect that there will be some improvements in that system, which will hopefully flow on to clarity for private property owners.

Mr YOUNG — All right, thank you very much.

Mr FENNESSY — I should clarify: the work we did with Peter Tuohey was when he was the president of the VFF, because I think is about to finish up.

Mr DALLA-RIVA — Just quickly, I want to just ask a question to Mr McKenzie. We heard the evidence of, I think, 3000 firefighters under your command, is that right? On the operational side?

Mr FENNESSY — Two thousand, six hundred and twenty-eight.

The CHAIR — Two thousand, six hundred and twenty-eight.

Mr FENNESSY — Authorised staff.

Mr DALLA-RIVA — And then in varies depending on your anticipation of the fire season for 15–16, based on the analysis that you are doing — —

Mr McKENZIE — Yes.

Mr DALLA-RIVA — Mr Davis went to some area of the current EBA and the negotiation with the CFA, and the same questions I have are about the concern about fire season preparedness, which is the reason why we are here. So in that proposal it is like you have set forward your planning for a number of firefighters. There are potentially 60 000 volunteer firefighters that could be on hand — obviously not all at once, but a proportion. If the concerns that were raised by the volunteer — —

Ms BATH — VBFB.

Mr DALLA-RIVA — What was it? You know the one — —

Ms BATH — VBFB.

Mr DALLA-RIVA — VBFB — there are so many acronyms in this gig!

Their concern is obviously that the evidence that we heard is the frustration by their volunteer member base — the concerns that if they have to be subject to other union controls or demands, there may be people walking away. They are obviously going through a process now of surveying their members, and they will bring that back to us. So my question gets to the fire preparedness, which is the issue, and ensuring that you have confidence that if things go off the rails, so to speak, you have confidence in your mind that you have got a significant volunteer firefighter base to assist in your firefighting efforts. Do you have any comments or statements around that?

Mr McKENZIE — Maybe just first off to address how we look at the resourcing levels: we have what we call the model of fire cover, which is our standard, if you like, that is our resourcing requirements to manage fire on public land, and in that we have got identification of what our resourcing requirements are. So those numbers that we talked about before, that includes people who work in incident management teams, includes people who work in support roles and it includes on-ground firefighters, so that 2628 is made up of people who do incident management team-type functions, so the management — —

Mr DALLA-RIVA — They wear suits?

Mr McKENZIE — No, they certainly do not wear suits. They do some pretty amazing work, working in incident control centres — —

Mr DALLA-RIVA — Miezis wears a suit. He has acknowledged he is a suit wearer!

Mr MIEZIS — I do not when I am in the state control centre.

Mr DALLA-RIVA — I realise that, and that is what I was getting at.

Mr McKENZIE — Yes. They are largely VPS staff, so they are ongoing employees, and they maintain their training and skill bases year after year. Then we bring on a seasonal firefighting workforce in addition to that, and that is based on what we think the seasonal outlook is going to be. Last year we actually looked at the season — —

Mr DALLA-RIVA — That is the point that I am trying to get clarity on — it is based on what you are assessing it to be.

Mr McKENZIE — That is right.

Mr DALLA-RIVA — You say you deal with public land, and I have heard that, but are you saying, and I interject purposely, that no CFA volunteers go and fight fires on public land?

Mr McKENZIE — No, they absolutely do — —

Mr DALLA-RIVA — So therefore there is a requirement for you to have that volunteer firefighter base in the fire season preparedness in your calculations. It has to be in that calculation.

Mr McKENZIE — In terms of the model of fire cover, we do make some recognition of the CFA contribution. In some parts of Victoria, particularly in the west of the state — if you look up into places like Swan Hill, Mildura — we do not have a large workforce. There is not a lot of public land there though, either, so in those sorts of areas the CFA would predominately make up an incident management team or provide first-attack resources. Certainly the CFA will assist us in terms of fighting fire on public land, but we are the control agency. We are the lead agency, and they are a support agency to us, so they do support us.

Mr DALLA-RIVA — Just to clarify, so if there is a fire on public land in remote areas we do not have a resource, you obviously have to rely on CFA volunteers and the force to get there until it has taken on a broader scale?

Mr McKENZIE — Yes, and in some instances the CFA will arrive first on scene on public land, just depending on where the fire is and where our resources are located.

Ms BATH — Thank you, gentlemen, for your submissions today. I am going to take a different tack and talk about fire towers and probably direct it to you, Mr McKenzie. There is a gentleman by the name of Mr Tony Long, who in February this year commented that:

Fire towers play an important role in the early detection of fires both on private and public land.

That was in February. I guess my comment or thought would be that the fire tower is only as good as the observer sitting in it with the goggles and the glasses looking out. In our bundle of submissions we have had a number of people commenting around DELWP and how a fire tower observer is chosen. There is a comment that in the past they have had local people with good knowledge of the area who may have had 10, 15, 20 years experience. One gentleman said that in the latest field staff agreement in 2015 DELWP wants to not re-employ current fire tower observers. Then he goes on to say the department wishes to retrench all fire tower observers within four years and replace them with — and I am quoting — ‘reluctant’ ongoing staff. Could you explain what DELWP’s intentions are in terms of fire tower observers?

Mr McKENZIE — Thank you for your question. The fire towers do form a very important part of our early detection system for reporting fires on public land. We have 66 of our own towers across the state, and there are another 16 towers that are operated by either the CFA or Melbourne Water. Fire lookout observers are an integral part of that detection system, manning those towers for very long days looking through binoculars looking for smoke. We have employed fire lookout observers on a casual basis — so on a seasonal basis as

casual employees. They generally have been local people and have generally been retired people who are looking for part-time work during the summer and things like that. It has been a really good fit from that perspective, but we are looking at moving away from a casual employment opportunity. We are looking at full-time people doing the fire lookout observer role. That is not to mean that we will put people in there who do not meet the skill requirements of fire lookout observer — they will have the same ability, same experience levels, to do the job. We recognise the importance of the role, so while we might be moving away from the use of a casual employment workforce, we are certainly not looking at reducing the skill set of those vital lookout observers.

Ms BATH — What would be the reason behind moving away from that? I am assuming in the past it has been quite successful to have a local with experience.

Mr McKENZIE — It is really about better utilisation, efficient utilisation, of our workforce. We have got opportunities within the current workforce to move people into those sorts of areas. We are looking at the cost efficiency and the cost effectiveness of employment and delivering that service as well.

Ms BATH — I guess at any point, for cost cutting, we cannot compromise safety and knowledge and ability.

Mr McKENZIE — Absolutely, I totally agree.

Mr MIEZIS — If I can just add to that, I do not think it is necessarily an either/or question; it is about getting the right people into the towers. We operate about 66 towers across the state, DELWP does itself. We have 72 trained fire lookout observers. We do look at maintaining a redundancy in the system, and often that can be provided by some of our fire crew who may not be able to do fire duties because of injury or other. They can often go up into a fire tower to backfill. Our primary focus is making sure we have the best fire lookout observer in the tower, recognising the important role that they play in community safety. It is also important to recognise fire tower observations are not the only thing we do. We have on-ground patrols and other things that we implement across summer for that early detection and therefore early response to fires.

Ms BATH — Can I ask, to go on notice, I would assume, that you are able to provide some costings around what it would cost to put one person into a tower or across the board? Could you provide us with some feedback in relation to that?

Mr FENNESSY — We certainly can. The other point that I made earlier is that with emerging technology — and some of the geospatial technology can get down to, I think, 15-centimetre landscape analysis — the other question is: what are the new technologies that will help us spot fires? Fire tower lookout observers is a very enduring technology — in fact they use Euclidean geometry of strings and compasses to line up their fire and eyeballs and binoculars. That is a very good local knowledge technology. If we have got other emerging technologies as well, we will always look at that as well.

Ms BATH — It is encompassed.

Mr FENNESSY — That is right.

The CHAIR — I am going to draw this to a close. Thank you for your submission today. There are a number of points that we have taken on notice. First, this most recent one, which is assessments and costings on fire tower charging and staffing changes; Ms Dunn's point about the bushfire management agreement, if we could take that on notice; and also my earlier point which relates to the materials provided to DELWP by Parks Vic, Melbourne Water, VicForests, the CFA and Emergency Management Victoria. I do not mind whether they are draft or not; we will want to see them. I thank you for your submission today. There will no doubt be further correspondence with the secretariat.

Mr FENNESSY — Thank you very much.

Committee adjourned.