STAY OR GO

One hundred and seventy three Victorians died in the fires of 7 February, two-thirds of them in homes.\(^1\) The Emergency Services Commissioner and the State of Victoria have correctly accepted that in light of those deaths, the ‘stay or go’ policy should be re-opened, reviewed and modified.\(^2\) This chapter begins with an examination of the historical, evidentiary and philosophical underpinnings of the policy and then explores the evidence relating to the implementation of the policy by the community. The chapter concludes with recommendations for retaining the principal components of the policy but with extensive modification of the accompanying advice and practical direction it offers the community.

THE CURRENT ‘STAY OR GO’ POLICY AS APPLIED IN VICTORIA

7.1 As fires blazed on 7 February 2009, Victorian communities and fire agencies made critical decisions affecting lives and safety within the context of an overarching policy framework for community safety in bushfires. The core component of the policy had become known by the slogan ‘stay or go’, but it is more accurately described by its full title, ‘Prepare, Stay and Defend or Leave Early’.

7.2 The Victorian position concerning the advice given to people living in bushfire-prone areas about how to prepare for bushfires, and what to do in the event of a bushfire, is discussed in a position paper of the Australasian Fire and Emergency Service Authorities Council (AFAC), titled *Position Paper on Bushfires and Community Safety* (November 2005).\(^3\)

7.3 The AFAC paper articulates what it describes as ‘a national position that provides the doctrine and describes good practice in relation to creating and maintaining bushfire safe communities throughout Australia’.\(^4\) AFAC distinguishes between positions that are national consensus statements about best practice, and policies that are created by fire agencies as expressions of those positions.\(^5\) While the position has been adopted nationally, aspects of the way it is expressed and applied as policy differ among the states and territories.\(^6\)

7.4 The position described in the 2005 AFAC paper has been adopted in Victoria as policy.\(^7\) As a policy, the position is expressed in the context of Country Fire Authority (CFA) practice and the core CFA documents comprising advice to the community. While the Commission has focused on the practical application of the national position in Victorian agency policy and practice, the Commission’s recommendations for change are informed by an understanding of the theoretical underpinnings and historical development of the stay or go position as developed and expressed by AFAC. Relevant parts of the historical development of the policy are discussed, for that reason.

7.5 AFAC’s 2005 document explains the core tenet of the position in these terms:

> With proper preparation, most buildings can be successfully defended from bushfire. People need to prepare their properties so that they can be defended when bushfire threatens. They need to plan to stay and defend them, or plan to leave early.\(^8\)

7.6 That statement is subject to the caveat that:

> It must be recognised that in limited cases, some buildings, due to their construction methods, construction materials, the site they are located on or their proximity to high and unmanageable fuel loads, cannot for all practical purposes be defended against high intensity bushfires. In these circumstances, householders should be encouraged to relocate early if the intensity of an approaching bushfire is likely to make conditions unsafe.\(^9\)

7.7 This caveat is critical, as the events of 7 February demonstrated, but it is not emphasised in the Victorian advice to communities (paragraphs 7.75 to 7.89 below).
7.8 The ‘stay and defend’ option draws on three principal conclusions from research:

- buildings are ‘more likely to survive’ if someone is there to protect them (noting that fire agencies cannot attend every property)
- most buildings lost in bushfires ignite from small fires caused by sparks and embers and, by extinguishing those ignitions, adequately skilled and equipped people can save a building that would otherwise be lost in a fire
- the most important aspect of preparation is the creation and maintenance of a ‘defendable space’ within which a property can be defended against embers and radiant heat.

7.9 Advice to the community about preparation and defendable space is discussed in detail below. Determining whether a property is defendable in given conditions is, demonstrably, a complex task. Staying to defend can and did, on 7 February, involve grave risks. The CFA literature explaining the policy to communities was silent on the risks of physical harm or the ultimate risk of dying in the attempt to defend.

7.10 The ‘leave early’ option is that if planning to leave, people must decide where they will go, how they will get there, and what trigger they will use to initiate their plan. The CFA advice to communities does not include advice about where to go. It does not suggest when to leave, other than through use of the ambiguous term, ‘leave early’, and the identification of a range of possible triggers (paragraphs 7.90 to 7.96 below).

7.11 The AFAC position statement emphasises three critical aspects of decision-making and planning by communities.

7.12 First, to make decisions about whether to ‘stay and defend’ or ‘leave early’, community members must become competent to assess whether their homes are ‘adequately constructed, maintained and prepared to withstand the impact of a fire at its expected intensity’. There are two aspects to the required assessment — the competency to assess ‘defendable space’ and, critically, an appreciation of expected fire intensity.

7.13 Second, the position statement explicitly recognises the importance of people in threatened communities having ready access to accurate information to assist in decision-making, both during periods of high fire danger and during fire events. The Victorian practice relating to warnings in the context of the stay or go policy is discussed below (paragraphs 7.57 to 7.58).

7.14 Third, while the primary decision should be made ‘well in advance of a bushfire’, it is explicitly recognised that residents should have ‘contingency plans in case a fire is more intense than expected, or if the building catches fire and cannot be extinguished’. On 7 February some community members faced the very circumstances highlighted in the position statement. Plans failed or were changed in the face of extremely dangerous fires. The current form of advice to communities and the policies supporting it fail to grapple with the need for contingency plans. What such plans might entail is not explained. Residents must work out for themselves where to go when fires are more intense than expected and when buildings catch fire and cannot be extinguished.

7.15 Because the position allocates responsibility to householders for deciding whether and when they will ‘stay’ or ‘go’, it expresses an approach to evacuation and assisted relocation. As Mr John Gledhill, Chief Officer, Tasmania Fire Service, explained in evidence, ‘the basic message of Stay or Go is that able-bodied people should be allowed to stay with their homes and actively defend them in the event of a fire.’

7.16 As explained in Chapter 6, fire agencies in Victoria do not forcibly evacuate or, as a matter of policy, recommend or assist relocation. The opposition to forced evacuation is long-standing and pre-dates the development and adoption of the stay or go policy. Legislative recognition of the right of property owners to defend their properties from fire (without being forcibly removed) was enshrined in legislation as early as 1915 and was reiterated in the consolidation of the Country Fire Authority Act in 1958 and in the Emergency Management Act in 1986.
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7.17 The stay or go policy itself contains several statements about the difficulties of evacuation: last-minute evacuation is dangerous; it is better for people to remain with adequately prepared homes than to be relocated; and large-scale evacuations are problematic. However, the policy also suggests that ‘there will be cases where ordered evacuation will be considered by the authorities, overriding individual choice in the interests of public safety’, while maintaining that adequately prepared and resourced people should not be forcibly removed from their homes.16

7.18 The Victorian policy goes further than rejecting mandatory evacuation. CFA policy does not permit personnel to advise residents to undertake a particular response when threatened by bushfire. Rather, the advice is given that the ‘two safest’ options for residents living in high bushfire risk areas are to stay and actively defend a well-prepared property, or to leave the area ‘before threatened and travelling on roads becomes hazardous’.17 That advice is specifically addressed in Chapter 6 and the recommendations that it be changed are an important aspect of the proposed modifications to the way in which the stay or go policy is currently practised in Victoria.

EMPIRICAL BASIS FOR THE CURRENT STAY OR GO POLICY

7.19 The stay or go policy is said to be strongly grounded in extensive research concerning the effects of bushfires on houses and people.18 Given that the conclusions from the research are translated into messages to the community (‘houses protect people and people protect houses’), it is important to understand what those studies establish and what they do not.19

7.20 The first group of studies examines how buildings ignite and are destroyed, and the significance of the actions of occupants in building survivability. The second group relates to the circumstances in which civilians have been killed in bushfires.

7.21 The key studies have each presented an analysis of primary evidence relating either to buildings or to deaths. Papers reporting on primary research have also reported on policy outcomes (whether to fight or flee, whether staying to defend should be preferred to evacuation) by drawing on research by others. The focus here is on the findings rather than on conclusions drawn by the authors of the studies about policy positions.20

Loss of Buildings in the Stay or Go Regime

7.22 The most significant learning about the effect of bushfires on houses has been drawn from the Ash Wednesday bushfires which killed 76 people and destroyed 2463 houses.21 Two major quantitative studies examined the effect of the fires on 455 houses in Mount Macedon and on 1148 houses in the Otway Ranges.22 In a single qualitative study, 40 residents of Upper Beaconsfield, 11 of whom had lost their homes, were interviewed.23 The findings of those studies were broadly consistent with two earlier studies and with subsequent retrospective studies.24

7.23 The principal findings of those studies, frequently referred to in the literature explaining the basis for the stay or go policy, were:
- There were three possible modes of house ignition — burning debris lodging on combustible material, radiation from fire, and direct flame contact. All three modes played a part in house destruction. In the majority of cases ignition appeared to have been caused by burning debris (embers) that gained entry through gaps or broken windows or that lodged in decking and other combustible structures.
- Radiant heat and flame played a significant role in cases in which houses were directly abutting dense, undeveloped vegetation. Ember attack can occur for some time before and many hours after the firefront has passed, but the firefront itself typically impinged on houses for only several minutes.
- If houses were attended, house losses were significantly reduced.25
7.24 The building studies also drew the following conclusions, each of which is important in the context of the 7 February fires:

- The spread of fire, when a house ignites, depends on both the suppression activities of its occupants, and on how it is ignited. Occupants were unlikely to survive bushfires if their houses were destroyed very quickly. Fires originating in roofs might be expected to compromise occupant safety.

- While ‘by far the greater proportion of houses offer relatively safe havens during the passage of a fire’ (compared with last-minute evacuation), residents of houses surrounded by exceptionally high concentrations of fuel, such as those near mountains or ash gullies, ‘might sometimes be wise to evacuate temporarily to safe places nearby’.

- The conclusion that there is an improved chance of saving a house by staying with it during a bushfire (than by leaving it) was subject to the qualification that the house is a ‘safe home’ and that there is ‘adequate public warning’ with ‘communication channels to be kept wide open’.

- Severe weather conditions play an important role in the potential for house loss.

7.25 Evidence received by the Commission to date is incomplete about housing construction and planning controls and the cause of the destruction of houses in the fires of 7 February. However, in its interim report into the 7 February fires, the Bushfire Cooperative Research Centre (Bushfire CRC) drew preliminary conclusions from its survey of over 1000 houses lost in the fires. The conclusions included:

- Active defence of structures had a major influence on house survival.

- Direct flame contact from surrounding bushland, and radiation attack, appeared to have been more prevalent in the 7 February fires compared with previously surveyed fires.

- Structures were subject to multiple wind directions during the peak of the fire event, which suggested that multiple firefronts may have approached those houses. There was evidence from occupants that the heat was too intense to be able to survive outside, due to several firefronts impacting on the houses or surrounding elements burning. This raised the question of the adequacy of the house to provide shelter while multiple firefronts may be active around the house.

- It is reasonable to suggest that more extreme fire behaviour associated with more extreme weather and high to very high fuel loads could lead to a greater exposure to structures. The greater the fire exposure the more readily a structure may be ignited.

Civilian Deaths in the Stay or Go Regime

7.26 The death toll from the February fires was catastrophic and unprecedented. By comparison with other major fires, the total number of deaths that occurred as a result of the 7 February fires is equal to almost one third of the total number of deaths in Australian bushfires over the last 100 years recorded in the database analysed by Dr Katharine Haynes, a Research Fellow at the Centre for Risk and Community Safety, RMIT University. It exceeds, by 14 per cent, the cumulative total number of deaths in the major fires at Hobart in 1967, Lara in 1969, Ash Wednesday in 1983 and Eyre Peninsula in 2005.

7.27 The Commission is yet to hear evidence about the actions and intentions of those who died, beyond the evidence that has enabled broad classifications to be reached. However, the proportion of deaths in homes (two-thirds) is strikingly different from previous fires (as discussed below). One hundred and thirteen of the 173 people who died as a result of the 7 February fires died in homes. Seven died in other buildings, 27 died outside but near to homes, 11 died in vehicles, 10 died near vehicles or on roads, 1 died on a reserve and 4 died away from the locations of the fires.

7.28 AFAC’s position is that, in light of the evidence to date about the deaths as a result of the 7 February fires, the stay or go policy remains under review. The State submitted that the policy should be re-opened and proposed recommendations for changes to the policy. Mr Alan Rhodes, Manager, Community Safety Research and Evaluation for the CFA, said that the deaths that occurred as a result of the 7 February fires ‘pose questions about the current approach’ — namely whether the options articulated in the advice were, in the conditions prevailing on 7 February, viable, and whether there was infrastructure in place to support the adoption of those options.
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7.29 In 2008 Dr Haynes and others completed a report for the Bushfire CRC that analysed data on 552 fatalities in bushfire over the past 100 years. This report classified the information, including by reference to the deceased’s activity and decision-making at the time of death, against assigned meanings. Activities at time of death included ‘late evacuation’, ‘inside a defendable property, passively sheltering’ and ‘inside a defendable property, actively defending’. Prior to 2008 the only detailed research into the circumstances in which people have died in bushfires in Australia was a 1992 study in which Krusel and Petris of the CFA studied 32 civilian deaths in Victoria in the Ash Wednesday fires, analysing information from the Coroner’s inquest files.

7.30 The main conclusions from Dr Haynes’ study were that:
- the greatest proportion of civilian deaths in bushfires had occurred during attempts at late evacuation (31 per cent in total, 25.7 per cent from 1956 to 2008)
- a significant proportion of deaths had occurred while defending properties outside (26.3 per cent in total, 24.5 per cent from 1956 to 2008)
- a minority of deaths had occurred inside homes (8.3 per cent in total, 13.6 per cent from 1956 to 2008) and of those, most occurred while the victims were considered to have been ‘passively sheltering’ or engaged in what the study described as ‘meagre and unsuccessful attempts to defend’.

7.31 The trends for the entire period are broadly consistent with the trends for each of the major fires examined as case studies (Hobart, Lara, Ash Wednesday, and Eyre Peninsula).

7.32 Dr Haynes’ research findings (and similar observations about relative death rates contained in earlier reports) are said to substantiate the stay or go policy.

7.33 The historical analysis discloses clear trends. Because those trends have not been replicated in the 2009 fires, further evidence and analysis is required before definitive conclusions can be drawn about previously accepted core propositions concerning the relative risks of staying to defend, and leaving (whether early or later).

7.34 As Dr Haynes points out, analysis of intentions and actions from historical data is constrained by limits in the available data, including in some cases, inconsistencies and lack of precision. As a result, categorisation of behaviour and intentions requires a number of assumptions that may obscure the complexity of events facing householders when decisions are required in the face of a fire and when plans fail. Key among them in Dr Haynes’ analysis are that deaths occurring inside a house are interpreted as deaths ‘inside a defendable property’, irrespective of housing construction or surroundings, and the assumptions entailed in designating the deceased as ‘passively sheltering’ or engaged in ‘very meagre and unsuccessful attempts to defend’.

7.35 For the purposes of this interim report, it is of greater value to ask an open question about what the historical analysis reveals about risks to human life and safety (and what measures would protect life), than to focus on whether the existing policy is ‘validated’. Important implications from the work of Dr Haynes and Krusel and Petris are:

- The importance of warnings to decision-making. Krusel and Petris concluded that 12 of 32 civilians who were killed in Victoria on Ash Wednesday died because they did not recognise the real threat to their safety in time to implement an effective survival strategy. Krusel and Petris concluded that, ‘it follows that if people do not receive a warning in time to implement effective survival strategies, a good understanding of bushfire safety is immaterial’. Dr Haynes found that many people underestimated the ferocity of the fires they faced, and on Ash Wednesday many people, although aware of the fires, were taken by surprise by the sudden wind change in the early evening when it was too late to evacuate.

- The difficulties and risks of implementing a fire plan. Dr Haynes’ study showed that most fatalities involved victims who were aware of the fire and were carrying out a plan. Dr Haynes concluded that ‘the relatively high rates of death in this group are probably attributable to the fact that the activity of “carrying out a plan” usually involves exposure to the fire and physical threat’, and noted that the study was not able to include comparative figures of successful defence of a property compared with all those attempts at a defence.
■ The difficulties of assessing the ferocity of fires, and preparedness. Dr Haynes concluded that ‘this study yields some difficult examples for the “prepare, stay and defend” argument — for example, how do we know how much preparation to fight the fires is enough? Even those who plan to stay are often not well-prepared; they do not expect to lose electricity or water, they have no back up plan and do not wear adequate protective clothing’.  

■ The primary importance of recognising and targeting vulnerable groups. Dr Haynes includes among them the elderly and frail, men who die attempting to defend property outside and women and children who die fleeing or sheltering in an undefended home. Dr Haynes found that in the 1967 Hobart fires ‘people were aware of elderly or frail in their community but, because of lack of planning and urgency, they had to look after themselves and their immediate family. This had disastrous consequences for their vulnerable neighbours’. ‘While some elderly and infirm people had made plans with neighbours to help or pick them up, this did not occur due to panic and hasty evacuations, rather than because of infirmity’.  

■ The fact that late evacuation is dangerous, and occurs. This is taken up in Chapter 6.

7.36 Both the fact of the deaths as a result of the 7 February fires, and the historical analysis, strongly suggest that practice and policy ought to focus on alleviating the very real risks and challenges facing community members preparing for and confronting bushfires.

THE PHILOSOPHICAL UNDERPINNING TO STAY OR GO

7.37 The stay or go policy expresses a philosophical position about the respective roles of fire agencies and the community in protecting against and preparing for the risks posed by bushfires. Mr Rhodes gave evidence that during the 1990s a broad paradigm shift occurred in Australian emergency management away from an agency-centred approach and towards shared responsibility between emergency services and the community in dealing with bushfire risk, often referred to as the ‘community safety approach’. He said that amendments to the CFA evacuation policy during and after 1995 reflected that shift. He characterised the present stay or go policy as epitomising this shift, ‘by identifying the critical role of the public in preparing for and responding to bushfire threat’. The shift in emergency services towards an active role for the community was integral to the stay or go policy gaining momentum.

7.38 A 1999 study by the CFA explained the evolution of the policy in Victoria in the following way:

Encouraging greater community responsibility coincides with a shift in the focus of emergency activity from incident suppression and operational pursuits towards risk management and incident prevention. This has required the formalisation of policies relating to emergency management and evacuation. Together, all these factors have resulted in considerable changes in CFA’s approach to community safety.

In the last decade, CFA has (a) adopted a new philosophy encouraging greater community self-reliance; (b) translated the research findings and understanding generated from this work into the Stay or Go message; and (c) formalised its policy position on evacuation. As a result, its policy, philosophy and messages are better aligned.

7.39 In light of the events of 7 February, the authors of the CFA study presented a prescient observation of the implications of translating research and philosophy into a message to the community:

While the options of stay or go generally reflect the two most viable survival strategies, the message has essentially simplified a decision which, in reality, is far more complex.

The notion of stay or go represents a complex decision which agencies are asking the community to make. It has been useful in forcing people to confront and recognise choices, but like all slogans its real meaning is far more significant. The options are underpinned by a series of confusing possibilities and decision making processes …

It is unrealistic to expect people to respond to disasters in a uniform manner, or in a ‘rational’ manner according to what the emergency services might try to prescribe … there are likely to be people at each wildfire in the foreseeable future whose responses do not reflect the ideals of stay or leave early … it is highly likely that there will be people who ‘wait and see’, or ‘do as much as possible’ and then leave, in future wildfire events."
7

STAY OR GO

REVIEW OF THE STAY OR GO POLICY PRIOR TO 7 FEBRUARY

7.40 By 2008, research conducted by or on behalf of the CFA had shown that:

- people living in fire-prone areas had often not developed comprehensive bushfire survival plans
- a significant proportion of those at risk adopt the strategy of waiting to see what happens during a bushfire and leaving if the situation becomes dangerous
- there was community disquiet about the level of warnings and information provided to communities during short-duration fires, with some residents reporting that the absence of timely warnings precluded them implementing a plan to leave early
- even if people have knowledge of how to act, it is likely that a significant proportion of them will lack the capacity needed to implement the policy options
- the ‘leave early’ message was not well understood.

7.41 In November 2008, AFAC commenced a review of the stay or go policy (as expressed in the 2005 document). AFAC has, since 7 February, produced a draft discussion paper on the policy entitled Prepare, Leave Early or Stay and Defend a Property. The current version of the paper (19 May 2009) observes, among other things, that:

- while householders should make every attempt to prepare their properties, agencies should encourage householders in properties that are poorly prepared or difficult to defend, to leave early when the bushfire risk is high or extreme in their locality
- the option of community fire refuges requires new consideration
- while mass evacuation is not endorsed, there are occasions where selective, early relocation of people is appropriate, including in periods of very high or extreme fire danger.

7.42 In their earlier 2004 draft review of the policy, Professor Handmer and others concluded that key policy implementation issues that required addressing included:

- distinguishing between survival strategies for ‘normal’ bushfire events and ‘mega’ events, ‘as the prepare, stay and defend option may be challenged by extreme bushfire events’
- defining when it is not safe to stay
- defining how early is early enough
- the role of warnings in implementing the policy
- lack of understanding of the stay or go message at the community level
- physical, social and economic barriers to adopting the options offered by the policy
- differences between rural communities and interface communities
- macro social trends and their impact on the stay or go policy — in particular, people’s growing expectation that they would be protected from risk by authorities.

COMMUNITY IMPLEMENTATION OF THE STAY OR GO POLICY

7.43 Key conclusions from the evidence heard by the Commission concerning the implementation of the major requirements of the policy (‘prepare’, ‘stay and defend’, and ‘leave early’), both on and prior to 7 February, are as follows.

THE PREPARE PHASE IN STAY OR GO

7.44 In relation to community preparedness generally:

- Victoria’s theoretical framework for community engagement to encourage preparedness for bushfire (described in Living with Fire — A Community Engagement Framework, 2008–2012) is sound. The effectiveness of a preparedness model to motivate preparation for bushfire depends upon how programs are translated into practice.
The context in which community members must choose between the options presented by the policy is complex. Mr Rhodes describes it as ‘a multi-dimensional concept’ involving a number of underlying assumptions or conditions. Implementing a fire plan and making a choice between staying or going require multiple levels of decision-making, both well before and during a fire. While the overall message is that people should have a plan and not change it at the last minute (as discussed below) circumstances can change and re-assessment (even to re-affirm a plan to stay or go) is necessary in stressful circumstances. This was an important theme in the evidence.

There is no standard set of measures that constitute adequate preparation. Effective preparedness depends on a range of factors including house type, property location, surrounding vegetation and personal readiness. It is necessary to think of preparedness relative to an event. Preparation that is effective in one set of circumstances may not be effective in another. People may be able to defend a property with relatively modest levels of preparedness if a fire is of low or moderate severity, but be unable to do so in an extremely dangerous bushfire. This was true on 7 February, when many residents planned and prepared for ‘normal’ bushfire conditions and were not adequately prepared for the extremely dangerous fires that eventuated. This is a critical point and was a major theme in the evidence.

Some community members will prepare well and be able to deal with bushfires in accordance with CFA advice. A number of lay witnesses from whom the Commission heard were greatly assisted by the CFA material and advice about preparation and were able to successfully implement fire plans.

Preparing a property for bushfire requires significant work, effort, resources and time. Despite preparation, for many lay witnesses the intensity of the fires was beyond anything they had expected or could have prepared for. Fires had to be fought for lengthy periods. Mr Daryl Hull said:

> the thought of a fire of that magnitude ever coming to Marysville seemed an impossibility, in anyone’s imagination.

Mr Bevan Gobbett of Clonbinane said:

> there was nothing — nothing at all could prepare you for what actually happened on that day and how intense that fire come in.

For a variety of reasons some community members will not be adequately prepared or adequately informed at the time of a fire. What it means to have an appropriate bushfire plan is not well understood. Many community members will not have an appropriate bushfire survival plan at the time of a bushfire. On 7 February, levels of bushfire preparedness varied widely among householders. Much last-minute, reactive planning took place. Levels of planning and preparedness varied according to the location of households.

Only one-third of individuals surveyed in the Bushfire CRC research into the 7 February fires had received information about how to prepare for a bushfire prior to the 2008–09 season.

THE ROLE OF CONTINGENCIES IN PLANNING FOR STAY OR GO

A significant element in any advice to the community on stay or go policy is that the best plans may fail. A plan or attempt to leave early may become impossible. A plan or attempt to defend may have to be abandoned, including because of the intensity of a fire.

Many of the lay witnesses told of having to change plans and being in situations of extreme danger. Houses caught alight rapidly, far more quickly than expected, and were unable to be extinguished. Raining embers could not be extinguished. Spot fires became overwhelming. Pumps and water supplies failed. The intensity of the fire was frightening and overwhelming, prompting people to flee.
7 STAY OR GO

7.47 Dr Lachlan Fraser of Marysville told the Commission:

Everything caught fire. At first the embers were such that you tried to put out individual embers and stamp out some and put some out with a hose, but it didn’t take long before green rhododendrons and azaleas burst into flame … I was using bucket and hose to put out spot fires. I was running to the back of the house to put out fires there with the hose at the back … There were great showers of embers coming through the carport. … One person was not enough to stop all those spot fires. The final blow was that the neighbour’s house became like a torch. There seemed to be a wind that came now up our street. It seemed to come across into my house and the neighbour’s house set fire to my eaves. Then I knew it was time to go.

7.48 The Commission is yet to learn of the plans of most of the 173 people who died in the fires. Many responses to the threat of fires on 7 February did not accord with the ideals in the policy. More than half of the households in the sample interviewed by the Bushfire CRC reported that a household member carried out a late evacuation because of the severe conditions of the fires, and a very small number of interviewees sheltered passively throughout the fire.

7.49 The accounts given to the Commission about people’s experiences on 7 February are consistent with the research about experiences of previous fires.

7.50 The stay or go position statement expects that when community members implement the policy by making a decision to stay or go, that they will factor in ‘contingency plans’ (Plan B or C) in case a fire is more intense than expected or if a building catches fire and cannot be extinguished.

7.51 The CFA literature, however, deals with contingencies only in part. When the core document, Living in the Bush: Bushfire Survival Plan Workbook, is read carefully, it communicates a hierarchy of risk — for example, staying in an unprepared home is preferable to being out in the open. It fails, however, to explicitly and directly engage with failed plans, and how to plan for contingencies.

FLEXIBILITY IN THE STAY OR GO POLICY

7.52 A benefit of the policy, theoretically, is that it allows for necessary flexibility, having regard to the fact that preparation that is effective for one set of circumstances may not be effective in another, and a plan that is suitable for one location may not be suitable for another. However, in practice, the advice to the community falls short, and can be improved in several important respects.

7.53 First, it emphasises pre-fire season planning and ‘sticking to your plan’. The CFA literature does not explicitly advise that it may be appropriate to plan to stay, but in some locations this may not be safe in certain situations, in particular under extreme fire weather conditions. While encouraging thorough preparedness and methodical implementation of plans is an important objective, it should not be emphasised without also communicating that plans (particularly plans to stay and defend) might well need to be changed, depending on fire weather conditions. The advice should engage directly with the time-sensitivity of pre-determined fireplans.

7.54 Second, while the CFA literature emphasises that it is important to prepare a defendable space and to assess the factors that are relevant to defendability, it does not specifically advise that in some situations, some houses will not be defendable (see below). The advice is that there are ‘two safest options’: leaving early or staying to defend. The advice should be tailored to local geographical and topographical circumstances. The prevailing CFA literature, particularly the most recent Living in the Bush, is virtually silent on the dangers and effort involved in staying to defend, particularly in extremely dangerous bushfires. The CFA advice to the community fails to distinguish between low-intensity and high-intensity bushfires, where the risk factors are quite different.

7.55 This discussion highlights the importance of a change in policy to permit CFA members to recommend leaving early (as discussed in Chapter 6), and to give timely, frank and realistic warnings about expected fire behaviour and intensity, and the associated risk of harm to human life.
WARNINGS AND THE STAY OR GO POLICY

7.57 In the following statement, Mr Bruce Esplin, Emergency Services Commissioner, explained the view, prevailing on 7 February within the stay or go policy framework, as to the role of warnings to people in a potentially affected community:

> The role of the information given on the day is for the people who have planned. So hopefully people would have taken the sensible – if they are planning to leave they should have left by this stage. The information provision during the day should be information to help those people who have taken a considered, logical decision that they are capable of staying and defending a property that is capable of being defended. The information that comes, then, is to enable them to activate their planning. So over the course of those levels of warning I would hope that people would be using it to make sure their pumps are ready to go, do the last little bits, put on their protective clothing; it is information according to the policy that is used to help people make that last little bit of preparation before the fire arrives.90

7.58 Mr Esplin also explained the importance of the provision of information to help the community understand and prepare for bushfires, and of the need to avoid encouraging late evacuation.91

7.59 The role of warnings, within the policy framework as described by Mr Esplin, is not one the Commission can endorse, having regard to the totality of the evidence on warnings (Chapter 4).

7.60 The stay or go advice sits (as it should) in a policy framework that assumes and expects that agencies should attempt to provide information to communities about fire location, rate of spread and predicted wind change, so that they can implement the policy.92 The provision to the community of fire prediction information is one of the important responsibilities of a fire agency.93

7.61 Research into the major fires in Australia has identified the significance of warnings to assist community members make decisions and to put plans in place to protect their safety, both before and during a fire event.94

7.62 A significant number of lay witnesses, when speaking about their experiences of the 7 February fires, impressed upon the Commission the relevance and importance of receiving information about expected fire location, direction and intensity, irrespective of whether their plans were to stay or go.95 While the most effective warning is one that is received by people who will know what it means and how they plan to act on it, a specific warning identifying a real threat, the time the threat will materialise, and advising specific action to be taken, has a good chance of increasing effective action, even among the unprepared.96

7.63 Encouraging preparedness is unquestionably important, as is avoiding late and dangerous relocations. But a policy framework that warns only the prepared is unrealistic. The policy and practice, in relation to warnings, must cater for both the prepared and the unprepared. People look for warnings when threatened or potentially threatened by fire. The application of the stay or go policy should reflect that reality.

PREPARING VULNERABLE COMMUNITY MEMBERS FOR STAY OR GO

7.64 The stay or go policy states explicitly that consideration should be given to relocating vulnerable residents during bushfires.97 The Commission heard compelling evidence about the need for preparation and advice to the community to specifically contemplate and provide for vulnerable members, including children, people with disabilities and the elderly, and the tragic consequences of failing to so do.98

7.65 In the CFA literature, including the core publication, Living in the Bush, in which the stay or go policy is explained, there are references in the text to children and older people. It is noted:

- bushfires can be a stressful experience for everyone, including children
- that children and older individuals are at a higher health risk
- that the elderly and young (including infants) are particularly at risk from heat-related illness.

7.66 Such messages greatly understate the risk to children and older people. The understatements are accompanied by photographs of families with obviously young children apparently engaged in planning. A caption to one family photograph reads, “Staying with your home, if it is well prepared and you are physically and mentally able to actively defend, is the safest option”.99
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There was only limited evidence before the Commission as to the 173 people who died in the fires. It came in the form of a table prepared by the Victorian Police. The table does not contain names. In each case, it sets out the age, residential address and a short note as to where the body was found. Three matters merit a note here. First, 113 of the 173 were listed as having been found within the structure of a house. Second, an age of 80 or above was noted for 17 of the 173. In percentage terms, that is approximately double what would be expected on current age/population figures. Third, 23 of those who died were under 17. Of that 23, 15 were found within the structure of 6 houses. There was also the evidence of Ms Jill Kane about the death of her disabled brother at Bendigo; Mrs Joan Davey about the deaths of her son, daughter-in-law and two grand-daughters; Mr Denis Spooner as to the death of his wife and son; and Mrs Carol Matthews about the death of her son.

The stay or go messages to families with young children, older people, and disabled people should be changed to an emphasis on relocation.

PREPARING URBAN COMMUNITIES FOR STAY OR GO

The stay or go policy is intended to apply to both rural communities and urban communities on the urban/rural interface such as Bendigo. However, the communication of the policy has a rural focus. Aspects of its language do not readily relate to an urban context.

Work is needed to raise awareness amongst the more urban communities on the urban/rural fringe of the risks of bushfires and the need for preparation. The advice to communities should consider and address the specific issues that arise for urban communities, in particular that leaving early in such communities is not likely to require leaving the night before or early in the morning of a high risk day (and accordingly such advice is impractical); and that the traditional understanding of leaving the bush to go into town does not easily translate to urban communities.

COMMUNITY EDUCATION AROUND STAY OR GO

The stay or go policy is predicated on the understanding that to grapple with the complexity of the decision-making and preparation required to successfully implement the policy, community members need the assistance of community education programs. The CFA’s view is that it cannot be assumed that people will make appropriate choices without such education.

The CFA has taken a multi-faceted approach to educating the community, recognising that the more significant outcomes of household and community preparedness only occur over the long-term and require sophisticated interaction between the community and fire agencies. The CFA’s Community Fireguard program sets a good example of best practice. There is scope for its development, particularly in how it is applied to the peri-urban fringe. To be effective, well-funded long-term education programs are needed.

Public education reaches and can be effective for some groups of people, but others are not reached, may be unaffected, or cannot take action for themselves. Even the most successful community and public education campaigns reach only a proportion of the intended audience. As noted previously, only one-third of individuals surveyed as part of the Bushfire CRC research had received information about how to prepare for a bushfire prior to the 2008–09 season.

Education programs are not a panacea. They are but one necessary measure to be used in conjunction with other necessary measures, such as effective warnings and situational awareness in agencies and communities, community refuges, and measures to assist the creation of defendable space.

UNDERSTANDING THE TERM ‘STAY AND DEFEND’

The stay or go policy emphasises staying to defend as one of the ‘two safest options’ for community members responding to bushfires. The core advice to the community is that ‘staying to defend a well prepared home during bushfire is a safe option if you are physically and emotionally able to defend your home’.

The single most important fire protection measure in the ‘stay and defend’ component of the policy is the existence of a ‘defendable space’ around the home. Within the context of the policy, ‘defendable space’ is intended to be an area of managed vegetation and reduced fuel load around the home which reduces fire intensity, radiant heat and the likelihood that flames will come into contact with the home.
Defendable space is a relative concept. It can only be assessed in the context of the nature and extent of the severity of fire and weather conditions on the one hand, and, on the other, adequacy of design and maintenance of a house and the level of active defence that can be mounted during a bushfire. Whether or not a house is defendable is a function of the interplay of all those factors. Some of those factors are static or relatively so (for example, topography, house construction). Others are variable, either during the year or fire season (for example, fuel loads) and some are realised within shorter windows of time (weather and fire intensity).

The events of 7 February made it clear that even well-prepared properties may not be defendable in certain conditions or circumstances. Some properties in some locations may be defendable in some fire-weather conditions, but not in others. This was not clearly recognised in CFA advice in the lead-up to 7 February.

Creating and maintaining a defendable space requires detailed consideration and planning, substantial time and physical effort, and financial resources.

The ‘stay and defend’ option assumes that a considered assessment has been made of the defendability of a house.

Despite the advice to community that staying to defend is one of the ‘two safest options’, CFA policy forbids its members advising people about defendability. That policy is based on two considerations. The first is that under the stay or go policy the decision to leave the area or stay with their property is the responsibility of individuals. The CFA personnel guidelines caution that, ‘CFA personnel should be careful not to provide residents with specific directions, remembering that the decision to stay with the house or leave, must always be made by residents themselves’. The second consideration is the complexity of the assessment required. The guidelines provide:

> A range of factors will influence the likelihood a house can be successfully defended. These include house design, construction and maintenance, vegetation management, fire intensity. These factors are very complex and may vary significantly throughout the fire season or even on any given day … Because of the difficulties in judging these factors it is very difficult to say absolutely whether a house would or would not survive a wildfire. It is therefore very important that personnel do not make statements about whether a house could or should be defended by residents during a wildfire. CFA personnel may come across houses that would have a limited chance of surviving a high intensity fire in their current state. In these cases CFA personnel are able to provide residents with advice on how to increase the preparedness of the house in case of wildfire.

Recommended changes to the policy (to allow CFA members to advise residents that the best option is to leave) are discussed in Chapter 6. In the context of CFA advice on stay or go, the complexity and variable nature of ‘defendable space’ should be reflected in advice to the community about the core policy options. As noted above, the advice on preparation currently does not sufficiently emphasise that staying to defend will not be safe in some situations, in particular in extreme fire weather situations, and that plans may need to change. As Dr Kevin Tolhurst observed, the concept of defendability needs to be communicated in the public as a concept, not a guarantee.

Despite this complexity, it is clear that assessments about defendable space can be made. Even relatively general assessments of local risk, based on an overall view of topography and weather conditions, would improve the position of residents. Mr Esplin said in evidence that ‘there are communities within Victoria where the safest option is probably to leave on most of those days’ (days of extreme fire risk). Mr Gledhill explained that the Tasmanian Fire Service has recently undertaken precautionary ‘triaging’ of properties in areas threatened by bushfire. Where time and sufficient warning of an approaching fire permit (which will not always be the case) fire service personnel classified properties as defendable, undefendable or defendable with fire brigade assistance. Residents of properties classified as undefendable were advised to relocate.
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7.84 Dr Tolhurst considered that it would not be difficult to have fire agency personnel making assessments of homes over the course of a year, and that with some assistance and a modest amount of training, people could use a computer-based tool to assess the defendability of their properties, taking into account variations in the published fire danger index, and other factors.120

7.85 The State said in submissions that it will, in the future, support members of the community in their decision-making by providing guidance, including an online risk assessment tool to help residents better assess the defendability of their homes and the risks they face under different weather and fire conditions.121 The State also agreed with the proposed recommendation of Counsel Assisting that the CFA consider how to provide individual advice to residents in bushfire prone areas about the defendability of their homes and said that the CFA would be developing a program for that purpose.122 Mr Rees had accepted in evidence that people need guidance of that kind.123

7.86 The risks attached to staying to defend include the risk of dying in the attempt.124 That risk is insufficiently addressed and is understated in the advice on the stay or go policy in the CFA publication Living in the Bush.125

7.87 Implementation of the ‘stay and defend’ aspect of the policy requires that residents be emotionally, physically and psychologically able to defend their property from fire, and that they are able to self-assess that capacity when deciding whether to stay or go. Such an assessment is difficult if not impossible. Communicating the emotional, physical and psychological effects of defending a property is very difficult. Few people have the opportunity to learn from experience.126

7.88 Living in the Bush suggests actively involving children in the defence of homes. During examination Mr Rhodes accepted that it is preferable that children not be present at all during a bushfire.127

7.89 The creation of a defendable space around the majority of properties in bushfire prone areas is not mandated by law and is subject to various government controls that may limit residents’ ability to remove vegetation and reduce fire risk. The Commission is yet to hear any detailed evidence on planning and building controls, or about building construction.

COMMUNITY UNDERSTANDINGS OF THE TERM ‘LEAVE EARLY’

7.90 AFAC (in its 2005 position statement) and the CFA (in advice to the community) have refrained from precisely defining ‘leave early’. The advice also does not tell people where to go.128 The CFA advice is that leaving early means ‘leaving home before a fire threatens and road travel becomes difficult’. Living in the Bush identifies the following as possible triggers:

- the declaration of a Total Fire Ban (TFB) day or other high fire danger days
- ‘when you hear about a fire burning in your district’.129

7.91 The Victorian Auditor-General recommended in 2003 that the CFA reconsider its official advice that all residents planning to leave should do so by 10:00am on high fire danger days. The Auditor-General considered that advice about when to leave should be based on local risk assessment.130

7.92 AFAC’s view is that the selection of a trigger to indicate that people should leave early is ‘very complex’ and that more research is needed, but in the meantime TFB warnings, fire weather/danger warnings, or warnings of fire in an adjoining district may all be used as a trigger.131 Mr Rhodes accepted that official warnings could be used as a trigger.132

7.93 ‘Leave early’ is not a concept that is well understood in the community.133 On 7 February a range of triggering events prompted people to implement their fire plans, including general warnings prior to the day or the fact that it was a TFB day, while for others, it was the first sighting of smoke.134 Yet others waited, in vain in most cases, for an official warning advising them to leave.

7.94 Leaving on days of TFB (which is the current official measure of high risk fire days) is widely regarded as inconvenient and disruptive. Saturday 7 February was the eighth in the preceding 11 days that had been declared a TFB day. Several lay witnesses whose plan was to ‘leave early’ said that the declaration of a TFB provided some guidance, but that something more was needed, including advice about extreme fire risk.135
CFA research shows that many people ‘wait and see’ whether fire will threaten their area before deciding to leave.\textsuperscript{136}

The advice on triggers for leaving early is currently unsatisfactory and should be modified. A cascading series of triggers, as follows, would incorporate the need for flexibility:

- leaving on extreme fire risk days (which is the safest option)
- leaving when you are advised to be ‘on alert’ in relation to a fire that has commenced. This requires that you pay attention to fire information sources (such as 774 ABC Radio or fire agency websites) on days of TFB and extreme fire risk
- if you have not acted on either of the above, if you become aware of fire in your area or possibly threatening your area, you should ascertain if it is safe to leave, and if so, you should go to your nearest designated community fire refuge or ‘neighbourhood safer place’.

**THEMES IN THE EVIDENCE ON STAY OR GO**

The evidence of events and experiences of 7 February consistently underscored the importance of the following:

- advice about implementing the stay or go policy, particularly advice about staying to defend, needs to be given and understood with an appreciation of the dangers and difficulties of confronting extreme fires
- implementation of the stay or go policy, particularly the ‘stay and defend’ option, needs to take into account local conditions and fire intensity
- there is a need to allow for contingencies — to have plans A, B and C
- there needs to be more particular assistance to community members in relation to ‘leaving early’ and assessing house defendability.
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The evidence also revealed that Victorian fire agencies implement and conceptualise the role of the stay or go policy consistent with their overarching framework for managing bushfire risk and community safety. Their approach is characterised by a drive for philosophical purity and theoretical consistency — an assumption that all aspects of the engagement between community and agencies must be consistent with the ideals expressed in the policy about how people do and should behave.

The pursuit of consistency has been important in the opposition to evacuation. It was one of the grounds on which the 2005 refuges policy, Fire Refuges in Victoria: Policy and Practice, was adopted. It governs, at least in part, the CFA policy forbidding members giving advice to residents about the defendability of their houses. It was reflected in the attitude that ‘warnings are for the prepared’ (paragraphs 7.57 to 7.63 above).

A cautionary note is sounded about that approach as it has several difficulties. First, while the problems feared to be caused by inconsistency (people will be confused) are often asserted, no persuasive evidence of them has been provided.

Second, the approach engenders assumptions (contrary to the evidence) that people will consistently behave as the models predict, and can tend to understate the difficulties of implementing the policy.

Third, the approach promotes rigidity and uniformity where flexibility and appreciation of diversity are called for.

Fourth, the approach can result in the delivery of an overly simplistic message. For example, studies showing the dangers of late evacuation and the effect on house survival of occupants actively defending their home are translated into the slogan: ‘people save houses, houses save people’. In reality, the lessons from past bushfires are more complex and varied.

The critique of this approach matters because, if unexamined, it can result in the promotion of policy consistency as an overriding value. It can mean that communities are not warned (or warned less effectively than they could or should be) and that they are less likely to be assisted when things do not go according to plan. The Commission has recommended that there be a single overriding value — the protection of human life.

The protection of that value requires flexibility and a willingness to engage with complexity and diversity.

As Mr Rhodes wrote:

We are dreaming if we think ‘stay or go’ is the solution for everyone, or that it will work for everyone in all circumstances. The context in which people make decisions [is] very complex and we cannot assume that people will make appropriate choices or that they will have the capacity to carry out their decisions. We are dreaming if we think we have got it right and can dismiss different approaches, or vary our approach and for example, in some circumstances actually advise people to stay and in others be more proactive in advising evacuation.
RECOMMENDATION 7.1

The CFA revise the publications and programs by which it communicates with the community about preparing for bushfires and what to do in the event of a bushfire to:

- reinforce existing advice that community members should prepare, and decide, well before a fire occurs, whether to leave early or stay and defend their homes; and
- clearly convey the following principles:
  - the safest option is always to leave early rather than to stay and defend,
  - not all homes are defendable in all circumstances and householders are advised to undertake an individual assessment of defendability,
  - unless a property is defendable the advice is to leave early,
  - the impact of topography, fire weather and fire intensity on defendability should be factored into household assessments,
  - the risks of staying to defend include the risk of physical injury and death,
  - contingencies are needed as the best-made plans may fail,
  - even if a plan is to stay, preparations to enable leaving should also be made, including the preparation of a ‘relocation’ kit specifying the location of designated community fire refuges,
  - there could be psychological impacts of staying to defend a property,
  - it is inadvisable for children to be present during the defence of properties,
  - practical steps are needed to protect the vulnerable. Families with young children, older people, and disabled people are advised to plan for early relocation,
  - advice on triggers for when to leave to incorporate the need for flexibility, the dangers of leaving late and the understanding that a warning may not be received, and
  - advice in relation to the policy specifically targeted to urban communities on the urban/rural interface.

RECOMMENDATION 7.2

The CFA consider the means of providing individual advice to residents in bushfire prone areas, as to the defendability of their homes.

RECOMMENDATION 7.3

The CFA ensure its members are fully trained as to the changes to the advice to the community set out in Recommendation 7.1.

RECOMMENDATION 7.4

The CFA train facilitators and educators and ensure manuals, brochures and other materials are enhanced to incorporate changes to the advice to the community in relation to the ‘stay or go’ policy, and the changes recommended elsewhere in this report.
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RECOMMENDATION 7.5

The State and its agencies implement an advertising and awareness campaign on the changes to policy and practices as set out in this report, such as the Standard Emergency Warning System, telephony-based warning system, use of sirens by local communities, refuges and relocation.

Source: Craig Abraham, courtesy of The Age