



## **THIRD YEAR REVIEW**

### **Bushfire CRC**

#### **Review panel**

Mr Neville Stevens (Chair)  
Ms Lindley Edwards  
Dr Melanie Taylor  
Professor Warren Payne  
Mr Stuart Ellis

**17 - 19 April 2012**

## **Disclaimer**

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## **Background**

The performance review of the Bushfire CRC was undertaken by an independent review panel (the panel) consisting of Mr Neville Stevens (Chair), Ms Lindley Edwards, Dr Melanie Taylor, Professor Warren Payne, and Mr Stuart Ellis at the Bushfire CRC headquarters on Level 5/340 Albert Street, Melbourne on 16 - 19 April 2012. The review was also attended by Mr Anthony Murfett, Mr Kris Browne and Mr Philip Hodgson of the department of Industry, Innovation, Science, Research and Tertiary Education (DIISRTE) acting as the secretariat.

First established after the 2002 selection round, the Bushfire CRC was awarded program funding of \$24.8 million for a term of seven years commencing 1 July 2003. During its funding term the CRC received additional funding from the Australian Government of \$350,000 per annum over three years for a community outreach program and another \$1 million over three years from the Australian Government to fund research on fire effects in alpine regions. Total funding to 30 June 2010 was \$28.85m.

Following the findings of the Victorian Bushfires Royal Commission in 2009 the Australian Government announced in the 2009 10 Budget a further \$5 million per annum over three years for the Bushfire CRC to undertake research that addresses issues raised by the Victorian Bushfires Royal Commission. This new funding was additional to the CRC's initial seven year funding agreement.

The Commonwealth Agreement was executed on 14 July 2010, the Participants Agreement was finalised on 5 October 2010 and payments commenced on 14 October 2010. Under its current Commonwealth Agreement, the CRC grant period will end on 30 June 2013.

The CRC has recently requested a 12 month extension to its current term utilising existing Australian Government funding and additional in kind resources from its participants. The CRC believes that the extension will: provide greater scope to deliver on its 'fourth year' impacts as described in its application; assist its graduate students complete their courses; and assist researchers and end users to put research outcomes into use. The proposal would also provide additional time for the CRC to consider its transition to a hazard management institute as recommended by the Victorian Bushfires Royal Commission.

Under the Commonwealth Agreement executed in 2010 the research to be undertaken by the Bushfire CRC covers three programs:

### **1. Understanding the risk**

This program aims to understand the underlying risk to, and exposure of, the community to fire and examine the things communities' value. It will explore and make sense of social conflicts by examining the complexity of legislation, regulations and policy, relating to fire management and build a risk evaluation model that can help residents, policymakers, asset owners and fire managers simulate the impact of decisions and examine the trade offs.

### **2. Communicating the risk**

This program focuses on the communication of risk and threat: how are warnings and information best communicated and, for example, which media should be used? Research focuses on what people actually do, why they do it and what tools, methods and techniques can be used by public safety authorities to better ensure the safest behaviour under the types of conditions that occur in major events.

### **3. Managing the risk**

This program addresses the transition of identified risk into a direct threat. It considers extreme events such as those that occurred in the Victorian bushfires (7 February 2009). Particular consideration is given to the role of incident coordination at the levels above the incident management team; as well as the ability to obtain timely information (situation awareness) consistent with fire prediction and other warnings. Also, the ability to resource threat events effectively and consider the impact of events on important infrastructure and resources.

The key impacts of the research programs will be:

- reduction in the marginal cost of service delivery;
- reduction in loss of life, fire related injuries and community health;
- reduction in property losses;
- reduction in community anxiety, better community resilience and reduced losses in ecosystem services.

### **Summary**

The panel concluded that the Bushfire CRC:

1. Demonstrates sound governance and committee structures that effectively involve stakeholders, researchers and end users;
2. Has a high level of interaction between end users and researchers from determination of the scope of research projects through monitoring progress and in using results. Undertakes social and technical research of high quality that is valued by end users;
3. Manages research progress in a sound manner but with sufficient flexibility to take account of opportunities emerging during a research project; and
4. Operates a successful post graduate program that supports students and integrates them into the work of the CRC and that of the CRC participants.

The panel noted particularly the strong support of stakeholders and end users, at very senior levels, to the CRC and the extent to which evidence based research from the CRC was supporting cultural change within the participant organisations.

The panel's main concern centred on measuring impact from the outcomes of the CRC's research and that the impact tool understated these actual and potential benefits. It was clear to the panel that the research was being taken up with enthusiasm by participants, even where the results may not be the most palatable to those organisations. The panel has made a number of recommendations for the CRC to measure these impacts more realistically.

Overall, the panel has made broad recommendations in relation to:

1. The use of metrics and data collection to evaluate the delivery of outputs and the uptake by end users, including the broader community, to better evidence the impacts and to validate the impact tool in exemplifying the value of the CRC. In this regard the CRC should work with the department to clarify and make better use of the impact tool.
2. The use of web based tools - specifically social media - in knowledge transfer and diffusion to the community; as well as for promoting its education program.
3. The professional development of students and in particular the provision of more regular training courses in fields of professional writing, project management, media and intellectual property.
4. Expanding its end user and stakeholder base as part of its transition options and future research objectives. The panel considers that the CRC would be advantaged by having – even if non financial – a relationship with end user groups as diverse as the insurance and utilities industries.

Finally, the panel supports the CRC proposal to extend its funding term by 12 months to 2014.

## **Panel recommendations**

Recommendation 1: The panel recommends the CRC widen its stakeholder base to reflect its future plans and proposed scope and to assist in the diffusion and take up of outputs to the broader community (including; insurance groups, local government, other emergency services, and utilities).

Recommendation 2: The panel recommends the CRC explore and implement additional *metrics to track research* quality and use at a program level using both leading and lagging indicators.

Recommendation 3: The panel recommends the CRC improve its research data management systems to facilitate secondary analysis of data collected by CRC participants.

Recommendation 4: The panel recommends the CRC evaluate the impact and outcomes of the research and to try and identify appropriate *metrics to track and measure usage* (for all potential impacts).

Recommendation 5: The panel recommends the CRC explore *metrics to track and measure impact* to evaluate success / uptake of research outputs (including web based tools) to evidence change – fire policy, operation processes, industry standards, and social awareness.

Recommendation 6: The panel recommends the CRC revise the impact tool in consultation with stakeholders (end users) and the department to reflect more realistic estimates of impact and for the benefit of the CRC post CRC program funding.

Recommendation 7: The panel recommends the CRC explore and implement a formal system to evaluate the quality of its Research Education program.

Recommendation 8: The panel recommends the CRC introduce more regular professional development courses (not just annual training workshops via the annual conference).

Recommendation 9: The panel recommends the CRC explore options to track and survey the impacts of the CRC through alumni both inside and outside the existing set of end user agencies, industries, and SMEs, to explore the impact of its education program, research activity and its knowledge diffusion into the community.

Recommendation 10: The panel recommends the CRC expand its work on web material and social media to improve diffusion of information, knowledge, and research (web engines / social media, web content).

## **The review**

### **Terms of reference and conduct of review**

The terms of reference for the review (**Annex A**) reflect the Performance Review Guidelines document available on the CRC program website at [www.crc.gov.au](http://www.crc.gov.au).

The review was conducted over 3 days, 17-19 April 2012, at the Bushfire CRC headquarters on Level 5/340 Albert Street, Melbourne.

A detailed agenda, including the key areas of investigation supporting the terms of reference, and program is at **Annex B**.

### **Membership of the independent review panel**

The independent review panel consisted of:

- Mr Neville Stevens (Chair),
- Ms Lindley Edwards,
- Dr Melanie Taylor,
- Professor Warren Payne, and
- Mr Stuart Ellis

A brief biography is provided at **Annex C**.

All panel members signed confidentially agreements and adhered with the CRC program *code of conduct, conflict of interest and confidentiality guidelines*.

### **Administrative support and observers**

Mr Philip Hodgson (Assistant Manager) and Mr Kris Browne (Manager) of the Strategy and Communications Section attended to observe and provide administrative support. Mr Anthony Murfett, General Manager, CRC Branch attended as an observer for the second day of the review.

### **Documentation**

The following documentation was provided to the panel prior to the review visit:

- Departmental brief on the history of the CRC and identified issues,
- Application information,
- Commonwealth Agreement and Variations, Participants Agreement and Company Constitution,
- Recent annual reports,
- Impact tool, including an executive summary (completed by the CRC),
- Department assessment of the impact tool,
- Supporting information (provided by the CRC) including; CRC governance and program structures, participant's roles, project descriptions.

Prior to the review the panel convened by teleconference to determine the agenda, interviewees and possible questions for the review. The panel also discussed additional information required from the CRC to undertake the review.

## Observations and Recommendations

### A Resources (governance, management and collaboration)

The CRC collaboration currently marshals appropriate participants and other resources to achieve the proposed outputs expected of it under its agreement with the Australian Government. The CRC has an effective governance structure and management team to manage the research projects and to involve stakeholders and users in all the activities of the CRC.

The finances of the CRC are soundly managed. This has been illustrated by the steady receipt of contributions above contractual requirements and by governance decisions to bring independent accounting and financial expertise into the CRC and rotate the CRC auditor.

It is pleasing to see that the board has three independent directors beyond the end user participants, and that the audit and compliance committee is chaired by a person with specific financial skills and expertise.

In relation to transition planning, discussed further below, the panel considered that the CRC should widen its formal and informal stakeholder base to reflect its future plans and directions.

Overall, the governance for the CRC is sound with robust and effective structures enabling interaction with stakeholders. All stakeholders interviewed were positive about their experience with the CRC. The judicious use of committees; the organisational structures of these committees and how issues are managed, picked up and fed through to the board, the stakeholders and the executive, appear to be very functional and well organized.

***Recommendation 1: The panel recommends the CRC widen its stakeholder base to reflect its future plans and proposed scope and to assist in the diffusion and take up of outputs to the broader community (including; insurance groups, local government, other emergency services, and utilities).***

### B Research and Education (impact and skills development)

#### Research

Overall, the CRC is undertaking quality research that addresses issues of economic, environmental and social significance to Australia. The CRC has demonstrated an end user focused education and training program that complements the research programs and that builds engagement, innovation and R&D capacity within end users.

The panel noted the CRC has effectively established its research projects in accordance with the program structure approved by the Commonwealth. The projects are aligned well with end user priorities as set by the stakeholder council across the three programs of research:

- Understanding Community Expectations
- Communicating the Risk
- Managing the Threat

The panel noted that the milestones for each of the three programs are broadly progressing according to the agreed schedule, albeit that the research is at an early stage. Notable exceptions include slippage in:

- Project 1.2.2: Simulation and Analysis of Case Study 1;
- Project 1.4.2: Report on the scenarios to enable use throughout the Bushfire CRC research and for user groups; and
- Projects 1.5.2 / 2.3.2 / 3.6.2.

Overall the milestone report supports the confidence expressed in the impact tool that the projects have a collective probability of 0.90 of being completed as contracted.

### ***Program management and leadership***

The panel was satisfied that the CRC had robust research management that is sufficiently flexible to enable changes in direction where dictated by changing circumstances. The research program is well justified in accordance with the overall focus of the CRC and the contract with the Commonwealth.

The CRC has implemented an integrated approach to end users in its research programs and this appeared to be highly successful. The use of 'lead end users' assigned to projects and tasked with principal end user oversight at all stages of the research was a strength in the program; creating a sense of shared ownership in the progress and outcomes.

The panel was pleased that individual projects have been through a process of peer evaluation led by the Principal Scientific Advisors.

Researchers indicate that the project management systems implemented by the CRC work well although some researchers suggested the on line project management tool could be improved.

### ***Scientific and technical issues***

The panel found no substantial scientific or technical issues, although the panel highlights the challenges associated with the 'Risk Assessment and Decision Making' research program.

Notwithstanding that these challenges are acknowledged by the CRC, and that the projects within this research program are progressing on schedule, the panel considers that there will be a need for close scrutiny and potentially more resources and a wider skill set.

### ***Research activity and outcomes***

While much of the CRC activity under the current contract is formative and is too early to report upon substantial knowledge transfer that may be occurring (such as publications, patents, procedure updates, policy, legislative arrangements, etc), the panel notes there was substantial anecdotal evidence to suggest the CRC should do more to identify appropriate metrics to capture the impacts (both actual and potential). This would better support the CRC impact tool and provide evidence of the value of CRC activities to stakeholders.

The CRC drew attention to the extensive body of literature largely arising from the initial Bushfire CRC. Data were reported (H index) which indicated that the citations arising from these peer reviewed publications is in keeping with that of a cohort of leading international researchers in the broader bushfire field of research.

The panel notes that this data is a good indicator of the high quality of the CRC research overall. However, in addition the CRC is encouraged to explore and implement further metrics to track research quality, overall and at a program level, using both leading and lagging indicators.

The CRC should also consider enhancing its research data management systems to facilitate capture and analysis of the plethora of potentially valuable data collected by CRC participants.

Finally, the panel would encourage the CRC to investigate and implement mechanisms (as necessary) to ensure its research partners are fulfilling their duty of care in relation to research integrity as expressed in the Australian Code for the Responsible Conduct of Research

***Recommendation 2: The panel recommends the CRC explore and implement additional metrics to track research quality and use at a program level using both leading and lagging indicators.***

***Recommendation 3: The panel recommends the CRC improve its research data management systems to facilitate secondary analysis of data collected by CRC participants.***

## **Research impact**

Critical to future research in this area is the ability to measure impacts. To demonstrate its performance, the CRC needs to articulate its achievements, impacts and outputs in a consistent and succinct way that can easily be communicated to stakeholders and the wider community.

The panel was concerned that the CRC had underestimated the probable impact of a number of its programs, particularly as end users suggested bigger impacts than that currently shown by the impact tool. The panel encourages the CRC to work with the department to re address the usage / impact data within the impact tool to reflect and articulate better the probable outcomes.

Very strong subjective evidence was provided by key stakeholders to indicate substantial uptake of the research outcomes had occurred. This uptake was reported to have resulted in considerable changes in stakeholder policy, practice and overall industry culture.

However the panel did not have access to objective data regarding the uptake of research outcomes and its effect on changing stakeholder policy and practice.

Thus while there is a strong sense that research outputs are meeting end user expectations and are adding value to the overall operation of the stakeholders, the panel encourages the CRC to invest in and establish a research evaluation program to provide the objective evidence.

The evaluation program should be seen as an integral part of the research program and not an 'added extra'. It should be planned from the start of each research program. This will involve clear identification of desired program objectives (impacts) and goals (outcomes) and the associated metrics needed to evidence the uptake / usage / impact of CRC activities.

***Recommendation 4: The panel recommends the CRC evaluate the impact and outcomes of the research and to try and identify appropriate metrics to track and measure usage (for all potential impacts).***

***Recommendation 5: The panel recommends the CRC explore metrics to track and measure impact to evaluate success / uptake of research outputs (including web based tools) to evidence change – fire policy, operation processes, industry standards, and social awareness.***

***Recommendation 6: The panel recommends the CRC revise the impact tool in consultation with stakeholders (end users) and the department to reflect more realistic estimates of impact and for the benefit of the CRC post CRC program funding.***

## **Education and training**

### ***Ability to attract and retain students***

The panel noted the CRC has experienced some difficulties in recruiting post graduate students but that these issues are in line with national trends. However, in the future the panel considers that it would be appropriate for the CRC to explore scholarships to support the research component of a Masters by Coursework program as a mechanism to increase the uptake of post graduate students.

The CRC could also ensure that the education opportunities offered within the CRC are well understood by education institutions and not left to chance or the effort of individual research staff within institutions alone.

The CRC should continue to ensure:

- a) Participation in information sessions with universities – open days (either directly, or through provision of material),
- b) Greater information distribution via social media channels, and

- c) Development of more mentoring opportunities with students at the undergraduate level through, for example; increased holiday programs, short term placements with researchers / end users for honours / graduate students, or other funding incentives.

The CRC reported a strong track record of attracting and retaining Higher Degree by Research students through to graduation (85% graduation rate). However, no data were presented on the quality of the students (other than graduation rate). Indices of quality could include reporting the scores used to assess scholarship applicants, progress rates (timely completion) and implementing a scoring system for PhD theses. These measures are used by some but not all universities in Australia.

***Recommendation 7: The panel recommends the CRC explore and implement a formal system to evaluate the quality of its Research Education program.***

#### Engagement with CRC research, project management and knowledge exchange

The panel commends the strong alignment between the student research and the overall CRC research program. The students acknowledged that being involved in the broader management of their own projects was a very valuable experience (e.g. recruiting participants for their research, negotiating data access, etc).

The students appreciate the substantial end user engagement in their projects. In particular, this appeared to be focused upon facilitating access to data collections.

#### Support structures

The past and present students who attended the review were positive about the support the CRC provided to them during their study. There was a strong sense of ‘belonging’ to the CRC displayed by the students.

The students were happy with their induction into the CRC and also into the overall fire industry. While the CRC is clearly supporting its students, the panel believes the CRC could do more to ensure the student group is given more regular opportunities for professional development training in media, professional writing, project management, and IP. These courses should be made more available beyond the annual conference.

The students acknowledged the benefits of being involved in summer placement programs prior to undertaking a scholarship and the value of scholarship top ups and funding support for completing manuscripts.

***Recommendation 8: The panel recommends the CRC introduce more regular professional development courses (not just annual training workshops via the annual conference).***

#### Education course development

The panel was impressed with the number of Higher Education and Vocational Education courses that have been or are being developed and implemented.

The panel noted that a number of participant fire agencies are Registered Training Organisations and deliver AQF levels 2 (Certificate II) 6 (Advanced Diploma) programs. The outputs of the CRC have been incorporated into the relevant elements of these programs (Training Packages).

The panel notes the creation of a Masters by Coursework program that is about to be implemented in collaboration with the University of Melbourne. Such a course should enhance the industry profile.

The breadth of courses developed by the CRC was also pleasing including specific programs focused upon primary school aged children. In addition to formal coursework, the CRC evidenced extensive

uptake of CRC program outputs into technical conferences (eg. Annual AFAC conference) and associated professional development courses.

### **C Results (commercialisation and utilisation)**

The outputs from the previous CRC's research are being delivered and are highly valued by industry; however, as noted earlier the degree of economic, environmental and/or social benefits to Australia is not being well evidenced by the CRC.

The CRC utilisation strategy relies heavily on the end user agencies. The panel supports this approach as it is a jurisdictional legal requirement and core business of those agencies.

However, in addition, the panel encourages the CRC to broaden its utilisation activities at the community level. In particular the use of its social media tools to diffuse research outputs and encourage take up by end users beyond the participant base should be enhanced.

#### End User Engagement

During the review the panel received direct assessments and comments from a range of end user agencies, drawn from across all States and Territories. Both the degree of support and the esteem in which the CRC is held was evidenced both by the enthusiasm with which end users spoke about the CRC and the quality of its research, and also in the seniority of the representation provided by these agencies at the review.

Of the end user agencies that were represented at the review, a number of consistent and positive observations were made:

- all were highly supportive of the research and conduct of the Bushfire CRC.
- those who had direct contact with CRC postgraduate students were impressed by their ability, enthusiasm, and quality.
- all felt highly engaged with the research.
- many who spoke were able to identify impacts that the CRC had made to their organisations and/or to their operations during the time it had been active (this clearly included impacts resulting from the earlier Bushfire CRC funding round).
- all valued the CRC and expressed a desire for research in this area to continue beyond the life of the current CRC.

The CRC was highly engaged with the peak industry body, AFAC. This partnering underscores the Bushfire CRC's presence as a national research centre and helps to defend against perceptions that it is focussed on the needs or research issues of any single jurisdiction.

The CRC is able to leverage further benefits from its relationship with AFAC through the annual joint conference. There is little doubt that this partnering provides the CRC with greater access to potential end user groups and enables it to showcase its research portfolio to a broad national and international audience.

In discussions with a selection of end users it was apparent that the contributions of the CRC were valued and were actively implemented by a wide range of agencies; from the large organisations such as the NSW RFS to small agencies, such as ACT Parks and Tasmania Fire Service. There were many benefits derived by different end users with smaller agencies appreciating the additional research capability which extended well beyond their individual budgets.

The CRC indicated that it had reviewed its previous approach to end user engagement and utilisation of research deliverables. It had conducted research to evaluate barriers to translation of research into policy and practice, and this appeared to have been conducted with a degree of rigour. It was clear, however, that significant barriers existed within some end user organisations; a situation over which

the CRC could reasonably be considered to have only limited control. During the course of the review it was suggested, more than once, that this potential block to translation could be eased through use of ‘translational users’ embedded in end user agencies who could work to ensure that benefits could be diffused more effectively through these organisations and onwards to communities.

The CRC presented the panel with its utilisation strategy that incorporated both research deliverables and a discrete second stage of research packaging. The goal of this second stage was to assist utilisation through provision of more relevant and usable end user products and communication / engagement mechanisms, such as seminars and workshops.

It was less apparent that these impacts were being systematically measured or captured and, therefore, were likely to be available as evidence of utilisation and impact in future reporting or funding proposals. As mentioned under research, it is recommended that the CRC invest in ‘researching the research’ to try to identify appropriate metrics and methods of capture. Similarly, through discussions concerning the employment of CRC postgraduate student alumni, the potential to identify, through the alumni, further utilisation and impact of the current Bushfire CRC was raised.

Some utilisation of Bushfire CRC deliverables is being made directly available within end user organisations through professional development and training, as well as through the provision of training tools/packs and best practice approaches.

Building its social media as part of its utilisation strategy will enhance diffusion and assist building the stakeholder base. Social media strategies need to consider twitter feeds and the like building through the use of social networks, such as Facebook and LinkedIn. The social media tools that are available and being explored by the CRC are supported by the panel which considers that these tools can assist to diffuse knowledge to stakeholders, build community support, and create a high impact communication strategy that can be easily deployed.

The panel noted that the CRC is hiring a person with strong web based skills in social media, and recommends that the CRC determine and prioritise the strategies that will have the most impact (social media, or web gaming, or interactive display technology).

***Recommendation 9: The panel recommends the CRC explore options to track and survey the impacts of the CRC through alumni both inside and outside the existing set of end user agencies, industries, and SMEs, to explore the impact of its education program, research activity and its knowledge diffusion into the community.***

***Recommendation 10: The panel recommends the CRC expand its work on web material and social media to improve diffusion of information, knowledge, and research (web engines / social media, web content).***

#### **D Performance against the Commonwealth Agreement (general issues)**

The CRC is meeting the requirements of the Commonwealth Agreement and is delivering the proposed outcomes for end users. The CRC is developing its transition strategies for the period beyond the term of CRC funding, and appears to have options that – even in the worse case scenario – will still bring benefits to its end users.

#### **E Transition (wind up) planning**

The CRC proposes that any future research body in this arena should be broader and address all natural hazards flood, cyclone, storm, earthquake and tsunami. If this was adopted, the programs would include the community resilience elements of:

- Incident management
- Workforce health and Safety
- Community messaging

- Community education
- Community resilience

The CRC has identified three options for transition from the current CRC to this broader research body:

Option 1: an institute funded in part by the Commonwealth (seeking \$10 million per annum, to be matched by \$5 million in cash from the Commonwealth and \$5 million in kind from participants including State Governments);

Option 2: a new CRC bid based on natural hazards;

Option 3: a smaller research centre working broadly in natural hazards but funded only from participants and State and Territory governments.

The panel was advised by the CRC that it strongly supports option 1 at this time, and that a further application to the CRC program would be unlikely to be supported by the current stakeholders. It further advised that the Victorian government is committed to supporting an institute as this was recommended in the Victoria Bushfire Royal Commission.

It is the current intention of the Bushfire CRC to seek to transition to an Institute.

The CRC presented a range of funding options including state only funding through to state and commonwealth funding. It identified a governance model very similar to a CRC, but as a joint venture involving:

- Australasian Fire and Emergency Service Authorities Council (AFAC)
- Emergency management agencies
- Bureau of Meteorology (BoM)
- Geo science Australia
- Community
- International community
- existing partners.

The panel noted the attraction of option 1 to the CRC but was concerned the CRC should not constrain itself to a single approach. The panel noted that the form and structure of any future research body would depend in part on the option chosen.

In considering transition issues, the panel noted the advice of the CRC that any scenario would take account of its ongoing responsibility to effectively budget for its transition from the CRC Program – including the ongoing support of its post graduate students.

The panel was informed by the CRC has a current cash balance of \$8.6m, including a carry over of \$2.752m from the original CRC and that it had sought approval from the department to utilise these funds to extend the existing three year term by one year to June 2014. It had sought this extension to enable greater utilisation of outcomes of its research and education programs and to provide additional time to pursue options and support for future research in this broad area.

The panel supports this approach, noting that there would be no additional cost to the Commonwealth.

The end users engaged with the Bushfire CRC are extensive, comprising more than 45 agencies. There was, however, some discussion about whether a further set of end users existed and whether they should be actively encouraged to become engaged with the Bushfire CRC at this point in time; even if they did not bring direct cash contributions with them.

The panel felt that the potential for future engagement with this second tier of 'harder to reach' end users, e.g. insurance companies, local governments, water authorities, electricity distributors, might be a useful investment given the uncertainty surrounding future funding streams. Such engagement could provide potential for capturing new sources of interest in the existing Bushfire CRC research program and would enable the Bushfire CRC to demonstrate its research quality and approach to a wider selection of potential end users.

*Comment: The panel supports the CRC proposal to extend its funding term by 12 months to 2014.*

### **Acknowledgments**

The panel would like to express its appreciation to the Chairman, Board of Directors, CEO and Executive Committee, staff and students of the Bushfire CRC for their time and assistance in providing data and helpful discussions during the conduct of the review.

**PERFORMANCE REVIEW TERMS OF REFERENCE****Resources (governance, management and collaboration)**

- a. the CRC collaboration marshals the appropriate participants and other resources to achieve the proposed outputs; and
- b. the CRC has effective governance and management arrangements.

**Research (skills development)**

- a. the CRC is undertaking excellent quality research that addresses issues of economic, environmental and/or social significance to Australia; and
- b. the CRC has a end user focused education and training program that complements the research programs and that builds engagement innovation and R&D capacity within end users.

**Results (commercialisation and utilisation)**

- a. the outputs from the CRC's research is/will deliver high levels of economic, environmental and/or social benefits to Australia;
- b. the CRC is undertaking utilisation activities to deploy research outputs and encourage take up by end users; and
- c. the CRC has effective SME strategies that build innovation and R&D capacity.

**Performance against the Commonwealth Agreement (general issues)**

- a. the CRC is meeting the requirements of the Commonwealth Agreement and is delivering the proposed outcomes for end users and Australia; and
- b. the CRC has robust transition strategies for the period beyond the term of CRC funding to maximise the benefits it generates for end users and Australia and where applicable, to continue its operations.

## PERFORMANCE REVIEW – AGENDA

## CRC Program Performance Review Bushfire CRC

17 19 April 2012

## Draft Agenda (see full program overleaf)

**Venue** Bushfire CRC, Level 5, 340 Albert Street, East Melbourne

**Contact** Beth Whelan T: +613 9412 9603 M: +61 404463612

**Review panel** Mr Neville Stevens AO (Chair), Ms Lindley Edwards, Dr Melanie Taylor,  
Professor Warren Payne, and Mr Stuart Ellis AM.

*Arrive: Monday 16 April. Accommodation: Hilton on the Park*

## Day 1 – Tuesday 17 April, 2012

Time	Description
8.00	Depart hotel for venue: Bushfire CRC Headquarters
8.30	panel discussion (panel only)
8.50	Welcome to Review – Introductions
9.00	Overview of Bushfire CRC
9.15	Governance, management, collaboration, strategic planning & direction
10.15	Q&A
10.30	panel Debrief
10.40	Morning tea
11.00	Finances (Budget contributions/resources)
11.20	Impact tool assessment
11.50	Q&A
12.00	panel Debrief
12.15	Research Portfolio – Overview all programs (30 Min)
12.45	Q&A and panel debrief
1:00	Lunch
1.40	Research Portfolio – Program 1 (30 Min)
2.20	Research Portfolio – Program 2 (30 Min)
2.50	Q&A and panel debrief
3.00	Afternoon tea
3:15	Research Portfolio – Program 3 (30 Min)
3.45	Q&A and panel debrief
4.00	Research Providers (Programs 1, 2,3)
4.50	panel debrief
5.00	Conclude day 1

**Day 2 – Wednesday 18 April, 2012**

<b>Time</b>	<b>Description</b>
8.15	Depart hotel for venue: Bushfire CRC Headquarters
8.30	Research Utilisation including knowledge transfer
9.00	Q&A
9.20	panel debrief
9.30	Discussions with End Users
10:20	panel debrief
10.30	Morning tea
11.00	Skills development, education and training
11.30	Q&A
11.45	Education Program student interviews
12.15	panel debrief
12.30	Lunch
1.15	Transition / wind up planning
2.15	Q&A
2.45	panel debrief
3.00	Afternoon tea
3.30	Summary of Day 1 and Day 2.
4.00	Concluding remarks CEO and Chair – Bushfire CRC
4.30	panel debrief
5.00	Conclude day 2

**Day 3 – Thursday 19 April, 2012**

<b>Time</b>	<b>Description – panel Only</b>
9.00	Draft panel Report (findings and recommendations) Bushfire CRC Boardroom
11.30	Final debrief to CRC CEO and Chair of Board (recommendations)
12.00	Departure to airport

## MEMBERSHIP FOR PERFORMANCE REVIEW PANEL – 2012

## Biography of panel members

<b>Member Name: Mr Neville Stevens (panel Chair)</b>	
<b>Short Biography</b>	<b>Photo</b>
<p>Mr Stevens has for over 20 years had major involvement in Australian Government industry, telecommunications, broadcasting and information economy issues from both a domestic and international perspective. Mr Stevens has worked in the Australian Public Service for 30 years, including five years as Deputy Secretary, department of Industry, Technology and Commerce, three years as Secretary, department of Industry, Technology and Regional Development and eight years as Secretary, department of Communications, Information Technology and the Arts. He currently provides high level policy and strategic advice in his current roles as:</p> <ul style="list-style-type: none"> <li>• Chairman of NICTA, a largely public funded ICT research centre;</li> <li>• Chairman of Ac3, a company providing managed computer services in NSW;</li> <li>• Member of the Australian Government's IT Industry Innovation Council; and</li> <li>• Member of the Australian National Maritime Museum Council.</li> </ul>	

<b>Member Name: Ms Lindley Edwards</b>	
<b>Short Biography</b>	<b>Photo</b>
<p>Ms Lindley Edwards is the Group Managing Director of AFG Venture Group. The Group undertakes corporate advisory work which involves merger, acquisition, divestments, strategic consulting, fund raising and licensing for its client base of public and private companies based in Australia and in Asia. Previously she has worked as State Manager (Vice President) with Citibank, an Associate Director with the Corporate Banking Division of Macquarie Bank, and has also worked on a secondment basis for Boston Consulting Group and for the Victorian State Government Project. Ms Edwards was appointed to the CRC Committee in 2007.</p>	

<b>Member Name: Dr Mel Taylor</b>	
<b>Short Biography</b>	<b>Photo</b>
<p><b>School of Medicine, University of Western Sydney</b>  Dr Taylor joined the University of Western Sydney (UWS) as a Senior Research Fellow in February 2007, following a 20 year career in Human Factors in the UK. Since joining UWS she has worked in population mental health research and psychosocial impacts of adversity; including pandemic influenza, terrorism, CBRNE terrorism, radiological and nuclear accidents, global warming, and equine influenza. This work extends both to general population preparedness and response to adversity as well as to emergency responder preparedness, response, and training needs for managing such events. Additional areas of current interest include risk perception, risk communication and knowledge and how these relate to emergency preparedness, compliance behaviours (e.g. public health behaviours, biosecurity practices etc.), and anticipated response behaviours. During her career in the UK she specialized in the optimization of human performance. Dr Taylor has been involved in the assessment of human performance and human error in many contexts, and has used a wide range of research methodologies.</p>	

<b>Member Name: Professor Warren Payne</b>	
<b>Short Biography</b>	<b>Photo</b>
<p>Professor Warren Payne is Pro Vice Chancellor (Research and Research Training) at Victoria University. He has a good understanding of the fire and natural hazard industry particularly across research, education and research utilisation. Victoria University has conducted research, separately from the Bushfire CRC, with Victorian fire fighters and Professor Payne has an appreciation of the working environment and needs of fire fighters and the type of research which is beneficial for the industry.</p>	

<b>Member Name: Mr Stuart Ellis AM</b>	
<b>Short Biography</b>	<b>Photo</b>
<p>Mr Stuart Ellis AM is a Director of a management consultancy company. He has considerable knowledge of the fire and emergency service industry having been Chief Officer and Chief Executive Officer of the South Australian Country Fire Service. In recent times Mr. Ellis has undertaken significant roles for the Victorian Bushfires 2009 Royal Commission, Council of Australian Governments National Inquiry on Bushfire Mitigation and Management in 2004 and the Inquiry into the Operational Response to the January 2003 Bushfires in the ACT. Mr. Ellis has considerable experience in reviewing industry and is well placed to support the review of the Bushfire CRC.</p>	