

# Monitoring the performance of wildfire incident management teams in real time

*Geoff Conway describes how wildfire response agencies in Victoria monitor the effectiveness of incident management systems and the performance of Incident Management Teams*

## Abstract

Many emergency services have well-established processes for operational review and implementing changes to structure, process and procedures as a result of lessons learnt from operational experience. This article describes an initiative implemented by wildfire response agencies in Victoria, to monitor the effectiveness of incident management systems and processes, and the performance of Incident Management Teams while they are working. It discusses the drivers for the introduction of the program, the structure adopted and the outcomes derived after three years of operation.

## Introduction

Since the introduction of Australasian Inter-service Incident Management System (AIIMS) by Country Fire Authority, Victoria (CFA) and the Department of Sustainability and Environment, Victoria (DSE) as a system for managing emergency incidents, both agencies have worked actively to establish, train and develop effective joint Incident Management Teams (IMTs). Ensuring that IMT members understand their role and the critical reporting relationships and interdependencies within the team has led to the development

of training programs, exercises, regular briefings and professional development activities for these personnel.

In Victoria, the performance of IMTs has come under close scrutiny. Of particular note are the Royal Commission into the explosion and fire at the ESSO gas processing plant at Longford in September 1998, the Coronial Inquest into the bushfire at Linton in December 1998, which resulted in the deaths of five volunteer fire fighters from the CFA, and the Inquiry into the 2002/03 Victorian bushfires. Each of these inquiries spent some time examining incident management structures and processes, and the performance of the Incident Management Teams deployed to manage these incidents.

## The impetus for establishing the program

A number of recommendations made by the Victorian Coroner, Mr. Graeme Johnstone, in his findings on the Linton Inquest (Johnstone, 2001) discussed the need to actively monitor safety during the fire fight. Five of these recommendations dealt specifically with the development of an audit function to oversee all aspects of incident management, the preparation of role statements and training programs for the audit team members, and training for both the auditors and those who respond to and manage fires, in the role the audit teams were to undertake.

The concept of deploying personnel to an incident to monitor the safety of fire fighters had been given some preliminary consideration by CFA and DSE prior to the Linton Inquest. However, the Coroner's recommendations gave impetus to the establishment of a program to meet the intent of the recommendation. This became the *Real Time Performance Monitoring Program* (RTPM).

Both CFA and DSE took the position that such a program had the potential to deal with more than safety issues in isolation. The opportunity to monitor the performance of individuals within an incident management team, and the team itself was also considered. Assessing the suitability of incident management infrastructure, agency procedures and AIIMS processes and roles in addition to monitoring fire fighter safety were all added to the list of tasks to be undertaken by personnel deployed to monitor the management of the incident. This position was based, in part, on the belief that effective incident management often overcame a number of the issues that lead to safety concerns on the fire ground.

## Program development

CFA and DSE appointed officers to develop and implement the program. This joint approach to operational review of wildfire response in Victoria is established in the *Cooperative Agreement between CFA and DSE* (CFA and DSE, 2001). These agencies co-operate

in all aspects of incident review and performance monitoring. In developing the program, objectives were established and formally adopted by the executive officers from both CFA and DSE (CFA and DSE, 2002). The objectives were to:

- monitor the activities of the Incident Management Structure, to promote safety throughout the incident, and effective and efficient incident management; and
- promote continuous improvement in incident management by effectively measuring operational performances during incidents, and reinforcing established standards and performance measures.

To provide guidance to those officers deployed as members of the Performance Monitoring Teams, and the IMT members who are the subject of the visit, a comprehensive set of Business Rules were developed addressing such issues as reporting relationships, supervision, logistical support and reporting of outcomes. The Business Rules provide both the monitoring team and the IMT with clear principles for the process. They are:

- *The Performance Monitoring Team shall address systems, structure and process issues within the Incident Management Structure.*
- *The Performance Monitoring Team shall not address issues of strategy or tactics unless they have specific safety concerns.*

- *The Performance Monitoring Team shall identify actions to be addressed by members of the Incident Management Structure at the time.*
- *The Performance Monitoring Team shall also record comments for later action or discussion, either informally or as part of a formal debrief or operations analysis.*
- *Unless there is a likelihood of serious deterioration in safety or incident management processes, the Performance Monitoring Team shall not become involved in carrying out any incident management function.*
- *In the event that the Performance Monitoring Team believes they should become involved in incident management, the State Coordinator of the control agency is to be informed as soon as practicable. The State Coordinator shall advise the Chief Officer – CFA and the Director of Emergency Management – DSE (CFA and DSE, 2002).*

The clarity provided by these principles has ensured a sound understanding on the part of all involved as to the role of the Performance Monitoring Teams. This confidence has also been critical to the acceptance of the program among IMT members.

The Business Rules were distributed widely and were driven by the principle that all involved should be fully aware of the intent of the program as well as the process to be followed. The other key characteristics established in the Business Rules are that Performance

Monitoring Teams should take a supportive, non-threatening approach to their role. For example, during the major campaign fires in Victoria in 2003, a Performance Monitoring Team deployed to a newly established Incident Control Centre found the IMT under extreme pressure to both establish the ICC and manage an escalating incident. With the support of the Incident Controller and the DSE State Coordinator, the Performance Monitoring Team spent most of their deployment supporting the planning and operations sections of the IMT.

The monitoring process is not punitive. On a number of occasions during the development of the program suggestions were made by various members of both services that the RTPM program could also be used as a means of formally assessing the performance of individual officers. These suggestions have always been strongly opposed by those personnel who developed the program and have the responsibility for its implementation. The task of managing a major wildfire is stressful and onerous. The conduct of a formal assessment in this environment would only add to the burden on the IMT and was considered inconsistent with the objectives and principles adopted by the executives of both CFA and DSE.

## Implementation

To assist the Performance Monitoring Teams in their tasks, a checklist of 'initial issues' for consideration during deployments was developed from a comprehensive list of several hundred items of indicators of sound incident management performance. It became obvious that such an extensive list had limited value as a support tool for the Performance Monitoring Teams as there would never be sufficient

Photo courtesy DSE



*Real Time Performance Monitoring examines the effectiveness of incident planning and the interaction between personnel at the ICC and those in the field.*

time to review all the issues, nor would it be necessary to consider all of them during a deployment.

Based on a review of issues identified from recent operational reviews, a rigorous risk assessment and consideration of priorities established by senior executive officers of both CFA and DSE, the checklist was trimmed to 11 key areas of concern. These were:

- appropriateness of the Incident Control Centre;
- appropriateness of the incident management structure in place;
- safety issues;
- specific operations functions;
- specific planning functions;
- communications planning;
- information flow;
- resource management;
- change-overs;
- specific logistics functions; and
- emergency management (integration with the broader emergency management arrangements).

By limiting the checklist to these key areas, CFA and DSE are able to ensure that attention is directed to those aspects of incident management that are identified as of current concern or specific interest. The checklist is reviewed annually to ensure it is relevant to current organisational needs and priorities.

The checklist is intended to provide a starting point in the review of the effectiveness and efficiency of the ICC and the IMT. It is not intended to restrict the examination of other issues that become apparent. The Performance Monitoring Teams are encouraged to investigate any areas of concern or interest if it appears appropriate at the time.

The most critical task in establishing the program was the selection of those officers who would be deployed as members of the monitoring teams. The Business Rules established the preferred qualifications for these officers which are:

Photo courtesy CFA



Fires at Heathcote south of Sydney in December 2001.

- AFAC Module ICS 4.04 qualifications;
- Chief Officer – CFA or Director Fire and Emergency Management – DSE endorsement as a Level 2 Incident Controller or higher; and
- Experience in Level 2 or 3 wildfire operations as a member of an Incident Management Team.

However, all personnel involved in a RTPM analysis must have the endorsement of the Chief Officer- CFA or Director Fire and Emergency Management – DSE to undertake the task.

This approach was taken to ensure that those officers deployed as part of a Performance Monitoring Team had credibility with the IMT members they would be monitoring and that the advice and observations being offered would be readily accepted. While the program is not intended to serve as a mentoring process for IMT members, mentoring often occurs by default during a deployment. This reality adds weight to the decision to establish strict criteria to the selection of Performance Monitoring Team members.

Effective communication skills are also an important personal skill for the Performance Monitoring Team members. However, the key characteristic required of these officers was summed up well by one of the foundation members of the team when he said, *'Its all about attitude!'*

A key principle established in the Business Rules was the determination to deploy both a CFA officer and DSE officer together as a Performance Monitoring Team where ever possible. There are two major advantages in this process. Firstly it provides a greater depth of experience and organisational knowledge, and secondly it sends a strong message about the co-operative nature of emergency response and wildfire incident management.

It is seen as critical to the success or the program to keep the teams small. The willingness of an IMT to accept and co-operate with the Performance Monitoring Teams is based partly on the fact that they do not get in the way or distract the IMT from their primary purpose which is to manage the incident.

The majority of deployments of Performance Monitoring Teams have been for a period of 24 hours. This is considered important as it allows the team time to observe activities at the ICC, staging areas and the fire line, ensuring that they can monitor the information flow between the IMT and the fire fighter on the ground. It also gives them the opportunity to observe at least one shift change. Due to the protracted nature of major wildfire campaigns and the logistics of mobilising Performance Monitoring Teams most deployments have occurred during the second or third shift of the IMT.

The decision to deploy a Performance Monitoring Team is made at a State co-ordination level. However there is nothing to preclude officers co-ordinating emergency response at a regional level, or an IMT from requesting the deployment of a team. Once deployed, Performance Monitoring Teams report to the State Coordinator of the control agency, however, the key working relationship is with the IMT.

The initial contact for a Performance Monitoring Team is with the Incident Controller. While the team is deployed they have an obligation to keep the Incident Controller advised of their whereabouts at all times. The Business Rules give the Incident Controller the option to restrict the access of the monitoring team to the fire ground or other areas if safety or IMT effectiveness might be compromised.

With few exceptions, all Performance Monitoring Teams have been able to establish an effective working relationship with the IMTs they have been monitoring. This is a testament to the professional approach taken by both the monitoring team members and the IMTs involved.

### Feedback and reporting

The RTPM program also has a comprehensive reporting regime. The key focus is the provision of feedback to IMT members, however there is also a need to ensure that those officers co-ordinating response at regional and State level are also kept informed on the effectiveness of incident management systems and processes and the performance of IMTs in the field. The reporting principles provided to monitoring teams are:

- *The Performance Monitoring Team shall advise the Incident Controller and Safety Advisor (if appointed) of any safety related concerns.*
- *The Performance Monitoring Team shall support and advise incident management structure members.*

- *Where the Performance Monitoring Team identifies an issue that can be addressed immediately they shall raise that issue with the member of the Incident Management Structure responsible.*
- *Where the Performance Monitoring Team identifies an issue that impacts on the broader incident management they shall raise the issue with the functional officer responsible (Operations, Planning or Logistics) and the Incident Controller.*
- *Where the Performance Monitoring Team identifies an issue that impacts on the safety of any person they shall immediately raise the issue with the person supervising that part of the operation, and then advise the Operations Officer, the Incident Controller and the Safety Advisor (where appointed).*
- *Prior to leaving the incident, the Performance Monitoring Team shall brief the Incident Controller, and if required, the Planning, Operations and Logistics Officers on any significant findings they have made.*
- *The Performance Monitoring Team shall, within 24 hours of completing the inspection, provide an initial report to the State Coordinator of the control agency, the appropriate Regional Director (DSE) and the appropriate Area Manager (CFA) identifying any significant findings.*
- *Members of the Performance Monitoring Team shall attend, as participants, the major debrief that is conducted for the incident.*
- *The Performance Monitoring Team shall, within 28 days of completing the inspection, meet with a nominated representative of the Chief Officer – CFA and the Director of Emergency Management – DSE to discuss progress on the report. The purpose of this meeting shall be to ensure all relevant issues have been addressed and the Terms of Reference have been met.*
- *Where possible, the final report should be submitted to Chief Officer – CFA and the Director of Emergency Management – DSE within 60 days of completing their inspection or as soon as possible thereafter (CFA and DSE, 2002).*

The Performance Monitoring Teams have also provided copies of their draft report to the Incident Controller for information and comment prior to submission, if desired. Only issues that have already been discussed with the Incident Controller, either during the visit or prior to submission, are included in the final report. This reflects the principle of openness and the need to build trust between the Performance Monitoring Teams and the IMTs.

### Outcomes so far

In the three years since the program was initiated there have been 10 deployments of Performance Monitoring Teams to wildfires and another five deployments to major IMT exercises.

The information and insights gained during RTPM deployments have been used extensively by CFA and DSE in bringing about improvements in preparedness for major incident response. The reports from Performance Monitoring Teams have validated many improvement initiatives already in place. They have also been able to identify issues of concern which have not been picked up by other review processes. Review of training materials, operating procedures and checklists as well as pre-season briefings for IMT members have all been based to some degree on the insights provided by the RTPM program.

The most important aspects of the program that have made it successful have been highlighted throughout this article. In summary they are:

- No secrets. Everyone involved must understand the intent of the program and the Performance Monitoring Team must be very open when discussing their findings with the IMT.
- Be supportive. Performance Monitoring Teams

Photo courtesy DSE



*Real Time Performance Monitoring Teams spend time with fire line managers to gauge the effectiveness of information flow among all levels of the IMT.*

are deployed to work with people in a stressful and time-critical environment. They need to show that they can add something constructive to the process and not become a burden on the IMT.

- Team credibility. The officers deployed to undertake a performance monitoring visit must have the confidence of their peers. If they cannot demonstrate an understanding of the role and the challenges of the task, any observations they make are unlikely to be accepted and acted on.
- Be Realistic. The workload of any IMT is huge and the complexities can be extreme. Performance Monitoring Teams must not try to achieve an exhaustive review of the IMT operation. This quite simply cannot be achieved. The intent of the initial issues checklist is to provide a focus on key issues. A Performance Monitoring Team deployed to monitor any IMT will soon be overwhelmed if they try to address all aspects of the operation. They are also likely to alienate themselves from the IMT they are working with.

CFA and DSE are yet to undertake specific research on the effectiveness of the RTPM program. However,

there is evidence to demonstrate that this program, in association with other initiatives in operational review, is bringing about improvements in the effectiveness of incident management at wildfires in Victoria, and consequently the safety of fire fighters responding to those fires.

Performance Monitoring Teams deployed to fires over the past three years have provided anecdotal evidence to suggest that those aspects of incident management identified in the initial issues checklist, and consequently of concern to the senior executive officers of both CFA and DSE, are being addressed by IMTs more effectively now than at the commencement of the program.

Over the past two years CFA and DSE have undertaken 'Post Season Surveys' of IMT members to gauge their views on progress in a number of areas of concern relating to incident management such as the effectiveness of briefings, and appropriateness of information flow to affected communities. These surveys also suggest that there has been a degree of improvement over the past two years.

The Victorian Coroner has been briefed twice on the RTPM program; firstly, in 2002 when it was first implemented, and again in 2005. On both occasions the Coroner indicated his support for the intent of the program and the approach taken by CFA and DSE in implementing RTPM.

## Conclusion

The program is still in its early stages. There will need to be many more deployments of RTPM teams before reliable empirical evidence can be gathered to demonstrate the usefulness of this method of performance monitoring. Much of the feedback provided by Performance Monitoring Teams has been consistent with data gathered from other sources such as formal operations analysis and debrief

reports. Each of these operational review tools are validating the information gathered through the broader operational review process.

However, a key guide to the success of the program has come from a number of the senior incident controllers in Victoria who have openly supported the program and are now expressing a desire to have RTPM teams deployed to incidents for which they are responsible. This endorsement provides great encouragement to all of those responsible for the development and implementation of this program.

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- CFA and DSE, 2002. Real Time Performance Monitoring Program. Business Rules of 2004/05.
- The internal organisational references quoted are available to readers on request by contacting Director of Operations/Chief Officer CFA, 8 Lakeside Drive, East Burwood, Victoria, 3144. (03 9262 8444)

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