

# ***Performance Audit Report***

## **Rural Fire Service**

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### **The Coordination of Bushfire Fighting Activities**

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## **Executive Summary**

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## Executive Summary

### The Audit

This Report presents the findings of a performance audit to assess the extent to which bushfire management and coordination within NSW is conducted in an effective, efficient and economical manner. Bushfire management embraces both fire suppression and fire prevention activities.

The NSW rural fire fighting model has several agencies providing emergency response to fire incidents. The largest agency is the Rural Fire Service (RFS) which is a separate agency from the NSW Fire Brigades. The RFS has primary responsibility for fire response in rural areas; this responsibility may be for village (that is building) protection as well as forest and grassland fires. Two land managers, the National Parks and Wildlife Service (NPWS) and State Forests are also rural fire fighting authorities.

### Audit Focus

The focus of the audit was on determining whether issues identified from the January 1994 fire emergency have been addressed by key stakeholders through revised policies, procedures and processes. The audit considered specifically whether:

- agencies have planning, coordination and liaison mechanisms agreed among them to allow for efficient and effective management of fire fighting activities
- fire fighting resources are allocated and used in an efficient and economical manner to maximise the benefits to the State
- agencies cooperate on bushfire prevention, training and community education activities.

### Audit Opinion

The NSW model of rural fire fighting is complex, and requires an extensive amount of coordination and cooperation to function properly. This has inherent risks.

In general, the model has been made to work quite well and much improvement in rural fire fighting has been achieved over the past decade.

The efforts of all concerned should be recognised and applauded especially since any change must be developed cooperatively between a number of agencies and groups.

It is recognised that the RFS, and its predecessor, have made commendable progress in conjunction with efforts by local councils, other fire fighting and stakeholder organisations, and of course the committed efforts of volunteers.

Nevertheless, past tensions and difficulties have left pockets of disagreement and resistance. The rural fire fighting culture which was developed over the course of a century has always been highly dedicated, as it is today. However, changed organisational, technical, legal, financial and environmental factors have necessitated major and continuing changes. Bringing about large scale changes to a massive volunteer-based operation is a daunting task, with no single body having complete authority over all aspects.

New legislation has been implemented which provides a strong base for ongoing reform. This Report seeks to highlight key issues for attention in the continuing reform program.

Specifically, The Audit Office considers that:

- cooperative arrangements have improved but results are inconsistent across the spectrum. Opportunities exist for further improvements
- progress has been made to address previous deficiencies identified in respect of resource allocation but a lack of data makes it difficult to assess whether resources are going to the areas of the State in most need
- considerable progress has been made regarding fire prevention but opportunities for further improvement remain.

The opinion is based on the following findings.

### **Rural Fire Operations**

#### **Cooperation**

Local cooperative arrangements, stakeholder participation and the effectiveness of local bush fire management committees vary across rural fire districts.

A number of issues have arisen in recent years over the responsibilities of the NSW Fire Brigades and the RFS. Issues include areas of responsibility, joint operations, common training and equipment, and how to determine boundaries between the two services. Several strategies are being pursued to address these issues and cooperative efforts are apparent, and progress is being made.

<b>Dual Accountability</b>	<p>The issue of the dual accountability that exists for fire control officers (FCOs) remains to be resolved between the RFS and local government. Although this has been a long identified problem, little progress has been made on this issue.</p>
<b>Incident Control System</b>	<p>There are conflicting reports on the success of the Incident Control System (ICS) in NSW which defines the responsibilities and activities for the control of fire operation and the management of resources during those operations.</p> <p>Differences arise because some agencies, particularly NPWS, have adopted the full national ICS structure which gives control of resources to the operations officer. RFS, on the other hand, has adapted a NSW rural ICS model, whereby individual agencies retain operational as distinct from strategic control over their resources.</p>
<b>Communications</b>	<p>Communications during fire suppression activities require improvement. Communication blockages amongst members of the Incident Management Team (IMT), between fire sector commanders and the IMT, and to other emergency response agencies, adversely affected several major fire operations last season.</p> <p>Fires during the last season highlighted operational problems from fire fighters not being able to contact each other directly by radio. This difficulty arose partly because RFS use different radio systems to NPWS and State Forests. Agencies have incurred the additional expense of purchasing mobile radios capable of communicating directly with other systems. This seems an unnecessary duplication of resources. Further work on addressing radio communications needs to be undertaken as a priority.</p>
<b>Fire Prevention</b>	<p>Present resource allocation methods place great emphasis on resourcing fire suppression activities. The same level of resourcing is not available for fire prevention activities.</p>
<b>Use of Aircraft</b>	<p>Concerns have been expressed by some people over the number of aircraft being used in fire fighting and the cost that this represents. Aircraft are an expensive resource with limited effectiveness. Analysis into the effectiveness of using aircraft in rural fire fighting by those responsible would be of benefit.</p>



**Post Fire  
Evaluation**

The assessment and evaluation of fire fighting operations is yet to be achieved satisfactorily. There is usually no overall formal assessment of strategies used in fighting each major fire. There are no specific performance measures of economy, efficiency and effectiveness in place, and no formal evaluation of agencies' effectiveness in fire suppression activities was evidenced during the audit.

It is acknowledged that difficulties exist in measuring and quantifying performance because of the number of variables: weather; terrain; risks; resources available; fuel levels; making each fire different. Nevertheless, the demands of effective decision making require further effort to be made to develop relevant, comprehensive and quantifiable performance measures. This would also help accountability and transparency of decision making.

**Rural Fire Resourcing**

**Sharing of  
Resources**

At present there is duplication of resources (stations, equipment and personnel) in many areas of the State and existing facilities could be better utilised. There are generally no agreements amongst agencies on resourcing levels required in rural fire districts or on the sharing of resources. Examples of shared operations facilities elsewhere indicate that potential exists for gains in efficiency and effectiveness (from better coordination and cooperation) and for capital and recurrent cost savings (from rationalisation and sharing of expensive capital facilities and operational resources).

**Matching  
Resources to Risk  
Levels**

Each of the rural fire fighting authorities is developing its own model for determining fire risks and resource levels. RFS has developed a Standards of Fire Cover (SOFC) methodology. However, SOFC resourcing recommendations are not mandatory and there is no automatic linkage of SOFC to the resource bidding process.

**Administrative  
Procedures**

Current administrative procedures for the Rural Fire Fighting Fund within RFS are duplicated with both head office and regional offices undertaking checking and record keeping procedures. Streamlining of procedures while maintaining adequate controls and accountability would bring efficiencies.

## **Prevention Activities**

### **Impediments to Hazard Reduction Activities**

Hazard reduction activities are being affected adversely by uncertainty over the perceived competing requirements of different environment protection legislation. In some areas, bush fire fuel loads have not been reduced for a number of years. This was a source of concern identified in previous major bush fire incidents. More guidance and assistance is required from expert agencies to assist local communities to fulfil their hazard reduction obligations.

Reporting of hazard reduction has been uneven and it is difficult to determine how effective hazard reduction has been at a State level. Further analysis needs to be done to develop methodologies to measure the effectiveness of hazard reduction and further refine fire prevention and suppression strategies.

### **Community Education**

Community education programs that target specific and high-risk areas are being developed. However, in the rural fire environment community these programs are just starting.

## **Fire Fighting Competencies and Training**

### **Joint Training**

There is no central training facility for all NSW fire fighters and training is the responsibility of the individual fire fighting authorities. Although cooperative arrangements exist in such areas as the development of training packages, joint delivery of training and the sharing of training facilities, opportunities exist for further improvements.

### **Firefighting Competencies**

Because there has not been one central rural fire authority, training infrastructure has developed without a guiding plan. The distribution of trainers and assessors in NSW is uneven and the effect of this is reflected in the differing levels of fire fighter competency across the State.

## Recommendations

It is recommended that:

1. The RFS and local government give higher priority to addressing outstanding issues regarding FCOs.
2. All rural fire fighting authorities take adequate action to ensure that:
  - there is agreed understanding on the Incident Control System and the roles and responsibilities of each functional area in the Incident Management Team
  - training for prospective Incident Control Team members be undertaken to reinforce such an understanding at all levels of operation.
3. Bush fire management committees be required to develop adequate communications strategies for their rural fire district and that these strategies be:
  - promulgated widely amongst all relevant stakeholders
  - supported by brief checklists to be completed at the commencement of a fire activity.
4. Priority be given to addressing the difficulties with radio communications amongst rural fire fighting authorities. If a single radio communication system for all agencies is not feasible then adequate communications protocols should be developed.
5. The RFS:
  - develop and promulgate comprehensive guidelines on what is allowable expenditure under s44 arrangements
  - enhance finance and purchasing training for personnel undertaking the logistics function.
6. The procedures for requesting aircraft in fire suppression activities be reviewed to include more objective and quantifiable criteria for fire controllers requesting aerial assistance.
7. A standard suite of performance measures be developed for use by all rural fire fighting authorities when reporting on fire suppression activities.

8. The RFS review the administrative procedures applying to the RFFF to:
  - clarify RFFF expenditure guidelines
  - better define the roles and responsibilities of RFS regional and head offices to remove existing duplication of activities
  - identify methods to simplify budget allocation procedures, for example through the use of a standard maintenance costing methods for light, medium and heavy tankers
  - improve local level record keeping and inventory controls for firefighting equipment.
9. The RFS:
  - undertake education activities for councils, FCOs and brigades on the objectives of, and the rationale behind, the SOFC methodologies to address current misinformation
  - encourage local government participation in developing the SOFC methodology with the aim of eventually linking resource allocation to SOFC analyses
  - encourage local government in all rural fire districts to develop long-term equipment replacement plans.
10. The Government, rural fire fighting authorities and local government develop cooperative arrangements to identify and then facilitate the sharing of resources. The long-term objective of the process should be to rationalise resources in regions according to risk.
11. As a matter of priority guidelines be enhanced to assist fire management committees comply with differing legislative requirements.
12. Hazard reduction reporting requirements be enhanced to include analysis after wildfires occur of the effectiveness of any hazard reduction activities.
13. The RFS and BFCC review the adequacy of existing strategies to promote community involvement in their own protection.

14. That RFS, in consultation with local government, continue if not accelerate efforts to:
  - determine the training needs for all rural fire districts in the State
  - determine the level of training infrastructure required to address that need
  - develop and implement strategies to encourage more volunteers to become certified trainers and assessors.

## **Response from the Rural Fire Service**

The response is included in full at Appendix 1.

# 1 Background

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## 1.1 The NSW Rural Fire Fighting Model

The NSW fire fighting model shares fire fighting responsibilities amongst several agencies and stakeholders.

### Legislative Basis for NSW Fire Fighting

NSW is divided for fire fighting purposes into two operational responsibility areas. Metropolitan fires and many larger country cities and towns are in proclaimed fire districts under the *Fire Brigades Act 1989*.

#### Urban Fires Response by the NSW Fire Brigades

Fire fighting response in fire districts is provided by the NSW Fire Brigades. Members of this agency are paid fire fighters; either full time paid employees or part time retained fire fighters who are paid only when actually called upon to fight fires (apart from a small “retainer” paid to maintain operational readiness). About 10 per cent of the State falls within fire districts.

#### Rural Fire Districts

The *Rural Fires Act 1997* (RF Act) came into force on 1 September 1997 and replace the former *Bush Fires Act 1949*. With commencement of the RF Act all areas outside fire districts now form *rural* fire districts. Rural fire districts follow local government boundaries. Currently there are 142 rural fire districts.

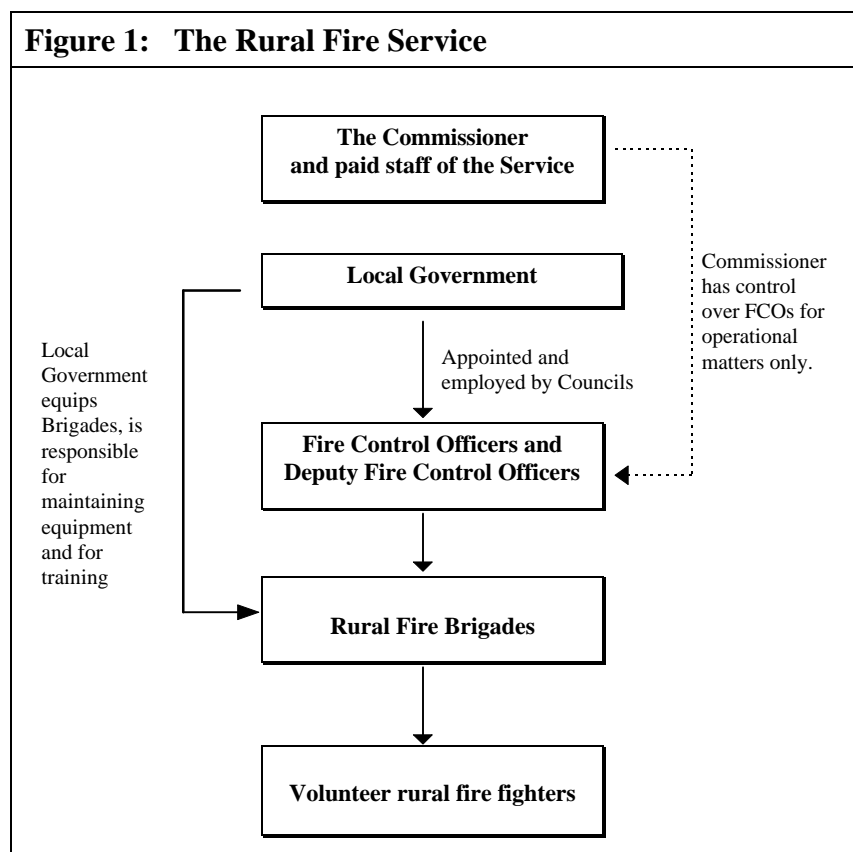
## 1.2 The Rural Fire Service

The largest fire fighting authority in rural fire districts is the Rural Fire Service (RFS). The RFS is a separate agency from the NSW Fire Brigades and formally came into being on 1 September 1997 with the commencement of the RF Act. However, the RFS existed before this date in the form of the Department of Bush Fire Services.

### Organisational Structure

The RFS is under the command of a Commissioner who is assisted by a small number of paid staff in its head office at Rosehill and in eight regional offices around the State. The RFS provides support to rural fire brigades in areas such as administration, training, engineering services, planning and community education.

The RFS differs from the NSW Fire Brigades in its reliance on volunteers to undertake the vast majority of its functions. Operationally the RFS comprises approximately 2,400 rural fire brigades and around 70,000 volunteers. Most of the senior positions within the RFS hierarchical structure, such as brigade captains and group leaders, are undertaken by unpaid volunteers. Figure 1 shows the organisational structure of the RFS and rural fire brigades.



### Expanded Roles of Rural Fire Brigades

The role and responsibilities of rural fire brigades has changed from the traditional function of fighting bush fires. The RFS has responsibility for structural fire protection in many smaller country towns. Rural fire brigades are called on to attend road accidents, assist in search and rescue operations and storm and flood recovery.

The additional responsibilities placed on brigades is reflected in the change of name from *bush fire brigades* to *rural fire service*.



### **Involvement by Local Government**

Unlike the situation with metropolitan fire brigades, local government has a significant role in the administration and operations of rural fire brigades. For example, under the RF Act local government contributes to equipping rural fire brigades, has responsibility for providing training, and for the maintenance and running costs of brigades.

#### **Fire Control Staff are Council Employees**

Local government is also required by the RF Act to appoint a person, approved by the RFS Commissioner, as a fire control officer (FCO). The FCO, and other paid officers in a rural fire district (such as deputy FCOs, fire mitigation officers and paid full-time training officers) are council not RFS employees.

This contrasts with the situation of the NSW Fire Brigades where local government contributes to the costs of the service but does not have involvement in the operations of brigades.<sup>1</sup>

## **1.3 Other Fire Fighting Authorities**

### **National Parks and Wildlife Service and State Forests**

#### **NPWS and State Forests are Fire Fighting Authorities**

Two land managers are also identified as fire fighting authorities under the RF Act. These are the National Parks and Wildlife Service (NPWS) and State Forests. Both these agencies have, along with managing significant land holdings within NSW, a strong tradition of bush fire fighting in their communities.

NPWS and State Forests maintain their own bush fire response capabilities and operate separately from the RFS and the NSW Fire Brigades. NPWS and State Forests have their own administrative units (regions and districts) which usually incorporate more than one rural fire district.

Although maintaining a small corporate 'fire management' section which provides policy advice and assistance, both agencies have devolved responsibility for the fire management function down to operational levels.

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<sup>1</sup> A major recommendation of the Coronial Inquiry into the 1994 bush fires was that local government be removed from involvement in the actual administration and management of the RFS. The Government did not implement this recommendation.

**Fire Fighting is Undertaken by Operational Staff**

NPWS and State Forests rely on paid staff for their fire fighting capabilities. Staff such as foresters, rangers, field staff, maintenance workers, administrative staff and managers may all have training and experience in fire fighting and form the fire fighting response from these agencies.

**NSW Fire Brigades**

Although the NSW Fire Brigades primary responsibility is for structural fires within fire districts it has a role in rural fire fighting. Fire districts often contain national parks or other bushlands requiring a NSW Fire Brigades response should fire occur.<sup>2</sup> In addition, although other emergency service agencies may respond to incidents such as motor vehicle accident rescues and hazardous chemical spills, the NSW Fire Brigades has been given overall responsibility for managing such incidents.

## **1.4 Facilitating Co-operation**

**Bush Fire Coordinating Committee**

The highest level forum for agencies and stakeholders to meet and discuss rural fire issues is the Bush Fire Coordinating Committee (BFCC).

**Membership of Coordinating Committee Usually Senior Agency Officers**

The BFCC was originally formed under the Bush Fires Act. The RF Act maintained the BFCC and strengthened its role as well as expanding its membership.<sup>3</sup> Reflecting the importance of the BFCC in deciding issues binding on organisations, members of the BFCC are usually senior officials in their respective organisations.

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<sup>2</sup> The NSW Fire Brigades provides a response to all fires within fire districts, whether structural, grass or in bush. RFS brigades are not formed in fire districts.

<sup>3</sup> Originally the BFCC comprised the (then) Department of Bush Fire Services, NPWS, State Forests, NSW Fire Brigades, Local Government and Shires Associations and a representative of the Minister for the Environment. These participants are joined in the reconstituted BFCC by representatives from the Police, Nature Conservation Council, NSW Farmers Federation and the Minister for Community Services.

The present BFCC is responsible for:

- planning in relation to bush fire prevention and coordinated bush fire fighting
- advising the RFS Commissioner on bush fire prevention, mitigation and coordinated bush fire suppression.

### **Fire Services Joint Standing Committee**

The principal recommendation of the Senior Deputy State Coroner's inquest into the bush fire events of January 1994 was that ultimately the Government amalgamate the urban and rural fire fighting authorities. Although not adopting this recommendation the Government has been promoting closer cooperation between the RFS and the NSW Fire Brigades.

One initiative to achieve this objective was the establishment of the Joint Fire Services Standing Committee. The aim of this committee was to identify opportunities for enhancing cooperation in such areas as protocols for joint responses to incidents, joint training, community education and the need for agreement on procedures for determining boundaries between the two services. Members of this committee are restricted to representatives of the two Services and their respective staff associations.<sup>4</sup>

### **Bush Fire Management Committees**

Bush fire management committees constitute the coordination forum at the local level. Bush fire management committees existed under the Bush Fires Act and the RF Act maintained their role while extending their membership.<sup>5</sup>

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<sup>4</sup> The Fire Services Joint Standing Committee Act passed by the Parliament earlier this year formalised the committee (changing its name to the Fire Services Joint Standing Committee) and gave it statutory responsibilities for its continuing work. Clear accountability of the Committee to the Minister was also established by the legislation.

<sup>5</sup> Each rural fire district is required to form a bush fire management committee that comprises the RFS and representatives of the major land managers within that rural fire district; as such, representation may vary amongst rural fire districts. Although local government is one of the members, and usually provides administrative support for bush fire management committees, these committees are not a committee of councils.

The bush fire management committee presents a forum for discussion and resolution of local issues. It also has a primary function of developing operational and risk management (formerly fuel management) plans.

Bush fire management committees are responsible for the local management of rural fires over a certain size and the committee will meet and decide whether to recommend the Commissioner declare a s44 appointment in the case of major fires.<sup>6</sup>

## 1.5 Cost of the Audit

The total cost of the audit was \$166,882 comprising:

	\$
Direct salaries cost	109,183
Overhead charges	46,793
Value of unpaid staff time (at standard rates only)	5,906
Printing (estimate)	5,000
<b>Total Cost</b>	<b>166,882</b>

## 1.6 Acknowledgments

The Audit Office gratefully acknowledges the excellent cooperation and assistance provided by representatives of the RFS, the NPWS and State Forests, to the Audit team: Michael Chan, Stephan Delaney, Stephen Horne.

Constructive and willing assistance was also provided by the NSW Fire Brigades, the State Emergency Service, the NSW Ambulance Service and the NSW Police Service.

The Audit Office also extends its appreciation to the Local Government and Shires Associations, the RFS Association and the ACT Emergency Services Bureau for the information that these stakeholders provided. The Audit Office would particularly like to thank the fire control officers and staff of the various local councils, metropolitan and country, which the audit team visited in person. (Council names have been withheld, although this was not requested by them.)

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<sup>6</sup> S44 appointments relate to the provisions of s44 of the RF Act which empowers the RFS Commissioner to appoint a person as the controller of a major fire.

## **2 Rural Fire Operations**

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## 2.1 Introduction

The Audit Office reviewed the operational arrangements that agencies have implemented to facilitate cooperative fire fighting. The audit looked at operational planning as well as strategies adopted by agencies to facilitate coordinated fire suppression activities.

Although considerable progress has been made to address the issues identified after the January 1994 bush fires further opportunities exist for improvement.

## 2.2 Agency Cooperative Arrangements

### Effectiveness of Bush Fire Management Committees

Bush fire management committees play a pivotal role in promoting cooperative fire fighting efforts at the local level, but the effectiveness of these committees varies.

The effectiveness of bush fire management committees often relies heavily on the facilitation and management skills of the FCO (FCOs being the executive officer on these committees). However, the role of the FCO as a manager rather than a fire controller is a recent one and is still evolving. Some FCOs have not undertaken training for their role as executive officers of bush fire management committees.

Stakeholder participation on bush fire management committees varies amongst rural fire districts. Major stakeholders such as RFS, NPWS, State Forests and local government participate actively on all relevant bush fire management committees. This is not the case for some other significant land managers. For example, the Department of Land and Water Conservation, as the “manager” of Crown Lands, is not a participant on many bush fire management committees.<sup>7</sup>

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<sup>7</sup> There can be no predetermined listing of participants for local committees because the main land managers will vary across rural fire districts. It is therefore the responsibility of bush fire management committees to identify major land managers in their districts. BFCC policy is for bush fire management committees to invite all major land managers within their rural fire district to all relevant meetings. However, there is no requirement for land managers to participate.

**Police, Ambulance,  
SES may not be  
Represented**

Other emergency response agencies (Police, Ambulance, State Emergency Service) may not necessarily be represented on bush fire management committees; their attendance depends on local staff availability and the relevance of issues being considered.

These agencies do not necessarily need to be involved with deliberation on specific fire fighting issues. However, they should be aware of how fire suppression plans affect their services and their local roles and responsibilities during fire incidents.

The development of local evacuation procedures, establishment of agreed staging points for medical and catering support and agreement on procedures to implement assistance through the local disaster planning arrangements all need to be clearly understood by agencies other than rural fire fighting authorities.

Similarly, all emergency response agencies need to have an agreed understanding of the operational precedent of each piece of legislation. Currently some uncertainty exists amongst agencies over which Act takes precedent, the RF Act or the *State Emergency and Rescue Management Act* 1989, at a major fire incident.<sup>8</sup>

To increase cross-agency training in emergency management and rescue operations the Government has provided \$250,000 per year, commencing in the 1996-97 budget. Given the extent of training involved it will take some time for the benefits of this training to become apparent.

**Effective Liaison  
Arrangements need  
to be Developed**

Effective liaison arrangements between the bush fire management committees and local emergency management committees (established under the State Emergency and Rescue Management Act) need to be developed. For example, discussions were held earlier this year between the NSW Police Service (the response agency with overall responsibility for evacuations) and other members of the BFCC to address evacuation procedure difficulties experienced last fire season.

Bush fire plans have been integrated as a sub-plan into State emergency management plans, which assists in improving liaison arrangements.

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<sup>8</sup> For example, the RFS Commissioner may invoke s44 of the RF Act to take control of a major fire. Technically the RFS Commissioner has control of the entire local government area (s44 declarations cover the whole of a rural fire district which is based on a local government area). This may cause operational difficulties for other emergency response agencies.

**Opportunities Exist for Improved Communications**

Communications is another area where opportunities for improvement exist. During the last fire season some road closures by rural fire fighting authorities were not notified to other agencies, causing operational difficulties and confusion. One emergency response agency advised that basic information on the number and location of fires burning at the one time was not available to it from fire control centres.

**Issues between Urban and Rural Brigades**

A number of issues have arisen in recent years between the NSW Fire Brigades and the RFS. Issues include joint operations, common training and equipment, and the methodology to determine operational boundaries between the two Services.

**Memorandum of Understanding Between the Fire Services**

Several strategies are being pursued to address these issues. In 1996 the RFS and NSW Fire Brigades signed a Memorandum of Understanding (MOU) to facilitate further cooperation. The MOU provides an overall framework for cooperation and details procedures to be followed in specific areas where there is potential for conflict during actual operations. By stating an agreed procedure, officers from both services are aware of their roles and responsibilities (and the authority and command) at individual fires.

**Local Mutual Aid Agreements are being Developed**

From the MOU, procedures have been promulgated for local Mutual Aid Agreements (MAAs) to be developed and implemented by RFS and NSW Fire Brigade local commanders. MAAs outline local cooperative arrangements between the two Services and are intended to ensure that every community is provided with the best possible response to incidents.<sup>9</sup>

Progress has been made on several issues. Under the auspices of the Fire Services Joint Standing Committee a joint methodology for determining boundaries for responsibility between the two Services has been developed. Notwithstanding that negotiations between the two Services continue on some remaining issues, boundary redistribution has commenced and is progressing rapidly,

Similarly, both Commissioners have agreed to inform each other

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<sup>9</sup> For example, MAAs identify significant assets within a local government area that may require protection by either Service. They may also include mutual aid zones where both Services will provide a response to a reported fire incident. In the latter situation the MAA will define which Service has ultimate control of the fire incident.



of their strategic plans and align these documents wherever possible. For example, the two Services are exchanging key management documents (such as corporate plans, strategic plans and annual reports) in draft form before publication to ensure consistency.

### **Agreements With Other Agencies**

There has been some limited development of service agreements amongst other NSW rural fire fighting authorities.

Agreements between the RFS brigades and NPWS and State Forests local management have been developed. Such agreements aim to overcome specific local issues, for example the procedures for RFS brigades gaining access to national parks and wilderness areas or how environmental aspects are to be treated when fighting fires.

Local agreements tend to be incorporated into local bush fire management committee operation plans (binding on all member agencies in a rural fire district) rather than being formulated between two agencies.

### **Cross Border Agreements Exist**

Cross-border agreements also exist between NSW emergency response agencies and their counterparts in other States and Territories. These agreements tend to be between sister services rather than at a State to State/Territory level.

Not all agreements, however, are documented. Because of different legislative and intra-agency requirements some cross border agreements could present legal complications and, it was suggested, may be difficult to document. As a result, informal arrangements between local commands have been implemented.

Informal agreements appear to be working satisfactorily and provide local communities additional response capabilities. For example, it appears common in border areas for fire fighting authorities closest to the incident to respond and commence suppression activity. Similarly, cross membership of local bush fire management committees occurs.

## **2.3 The Role of Fire Control Officers**

Two significant and long standing operational issues still to be resolved are those of the dual accountability that currently exists for FCOs, and whether FCOs should be covered by a separate industrial framework from other local government employees.

### **The Fire Control Officer is a Statutory Position**

The RF Act established the statutory office of the FCO to undertake the important responsibility of controlling and Coordinating local RFS activities. This includes supervision and direction of rural fire brigades and undertaking all necessary measures to suppress fires in rural fire districts.

The FCO is accountable to the RFS Commissioner for operational issues. Nevertheless, the RF Act clearly states that FCOs are not employees of the RFS. FCOs are council employees, employed under local government awards and accountable through the general manager to their local council. The legislative basis for the FCO position is shown in Table 1.

<b>Table 1: Fire Control Officers - Joint Responsibility Under the Rural Fires Act</b>			
RFS Commissioner		Local Government	
Section	Item	Section	Item
12 (2)	Determines and allocates duties of FCOs		
34(1)	Approves the appointment of the candidate for the position of FCO	34(1)	Determines candidate for appointment to the position of FCO
13	Issues service standards	124	Involved in developing service standards through LGSA representation on RFS Advisory Council
14	May delegate responsibilities to FCOs	38(2)(e)	May direct FCO to carry out other duties consistent with the role of FCO
37(1)	May direct FCOs in the performance of their duties	37(2)	Ensure that FCO carries out responsibilities defined in Service Standards
101(a) 102(2) (a)	May reimburse salary and overhead costs of FCO from the RFFF	37(3)	Required to provide suitable accommodation and facilities

Source: RFS with additions made by TAO. LGSA - Local Government and Shires Associations.

Local government representatives have stated clearly that they agree there should be operational accountability for FCOs to the Commissioner, especially in times of emergency operations. However, as most duties undertaken by an FCO can be classified as being related to the operations of the RFS, differing requirements and priorities may arise at times between the Commissioner and the local council. Competency standards, performance measurement, discipline and reporting lines are some of the areas of debate between local government and the RFS.

**Differing Interpretations on Industrial Matters Cause Difficulties**

There is evidence that differing interpretations on industrial matters between the RFS and local government have caused some difficulties. RFS suggests that FCOs' employment situation is unusual and any industrial arrangements should reflect the added accountability and demands of the position. RFS identifies several areas where FCOs responsibilities are different from other council employees including:

- being on 24-hour call and expected to be contactable 24 hours a day
- being expected to be involved in considerable after-hours activities, such as attending brigade functions, conducting training and attending RFS meetings.

The question of consistent duties for FCOs with insufficient full time fire control related activities also arises. RFS considers there is very little consistent activities available to FCOs and prefers the FCO function to be shared across a number of rural fire districts rather than having the FCO undertake non fire control activities.<sup>10</sup> The RFS is opposed to the employment of part-time FCOs.

Local government has resisted pressures for a separate industrial framework for FCOs. Local government suggests that disparities between remuneration of FCOs across councils may be able to be addressed through the existing broad band award structure and local appeal and review mechanisms.<sup>11</sup>

**Progress on**

Although problems relating to FCOs have been long identified,

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<sup>10</sup> S38(2) of the RF Act details the duties of a FCO. But s38(3) allows a local council to require a FCO to perform *any function if the performance of the function is consistent with the performance of a function imposed by s38(2)*.

<sup>11</sup> The Local Government State Award was developed with the aim of achieving one common award to cover all local government employees. To this end the original 400 separate classifications used to classify local government employees were replaced with a structure of four Bands containing 15 levels.

**Addressing  
Issues Appears  
to be Limited**

with meeting and correspondence occurring amongst stakeholders since mid 1995, progress appears to be limited. Some councils are very strident in their criticism of the current situation, arguing it is fundamentally flawed and an unworkable arrangement.

Others appear to have found ways to make it work fairly harmoniously. Several councils are developing performance agreements with their FCOs based on relating the FCO's accountability back to core competencies and setting performance targets for fire prevention or suppression functions.

Even so, the current arrangement clearly presents a potentially difficult situation, and one which the Deputy State Coroner in 1994 recommended be resolved. This has not been achieved. Further consideration of current arrangements is warranted: either to change them, or to develop a suitable raft of agreements and protocols to resolve current areas of conflict in all rural fire districts.

## **2.4 Fire Suppression Operations**

Cooperative operational arrangements amongst rural fire fighting authorities vary depending on the type and size of fires.

Small fires are generally managed and suppressed by one agency alone. For example, NPWS and State Forests will suppress fire on their lands using their own personnel and equipment. However, because of the need for a prompt response, local RFS brigades may provide an initial response for these agencies until they can commit resources themselves. RFS is usually responsible for suppressing other small fires that occur within rural fire districts.

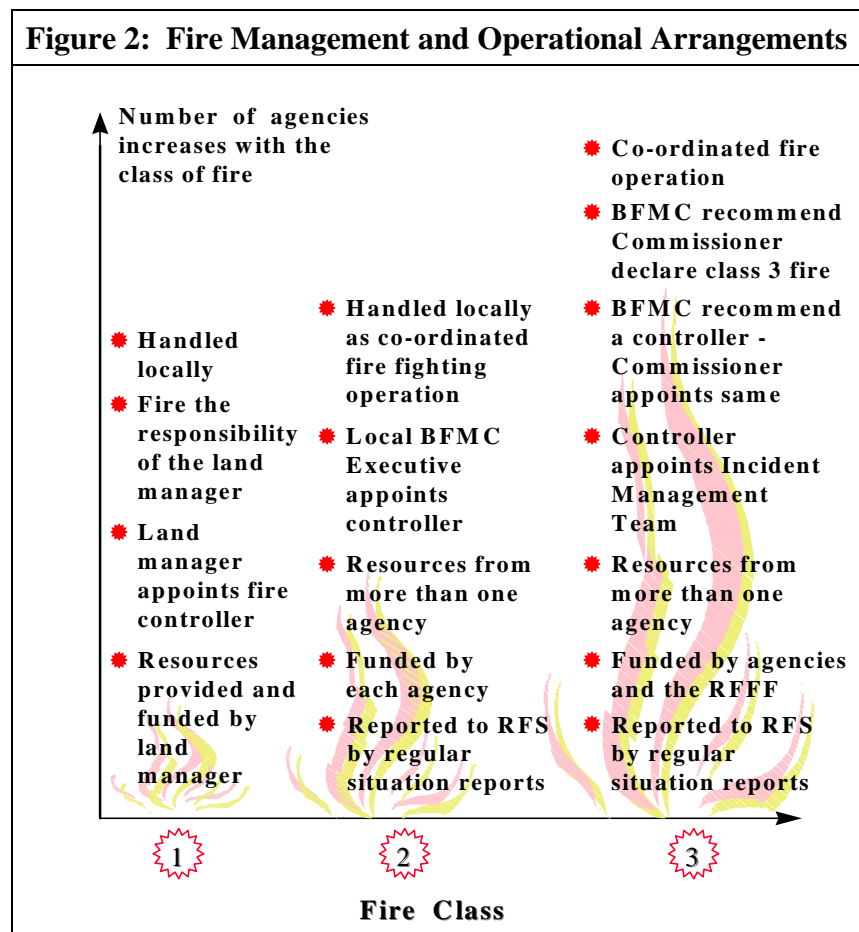
Management and the involvement of other agencies escalates as the fire intensity increases. If an agency's local resources are insufficient then other local agencies may be asked to assist.<sup>12</sup>

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<sup>12</sup> For example, it is common for NPWS and State Forests lands to adjoin each other. A fire starting on one agency's land will usually find the other agency assisting to prevent the fire spreading. Such arrangements are made locally between the relevant agencies' managements.

As fires progress the local bush fire management committee will become more involved in coordinating suppression activities. For very large fires bush fire management committees will meet to consider recommending to the RFS Commissioner that he appoint an incident controller under s44 of the RF Act.<sup>13</sup>

The levels of fire and the response arrangements that occur are shown by Figure 2.



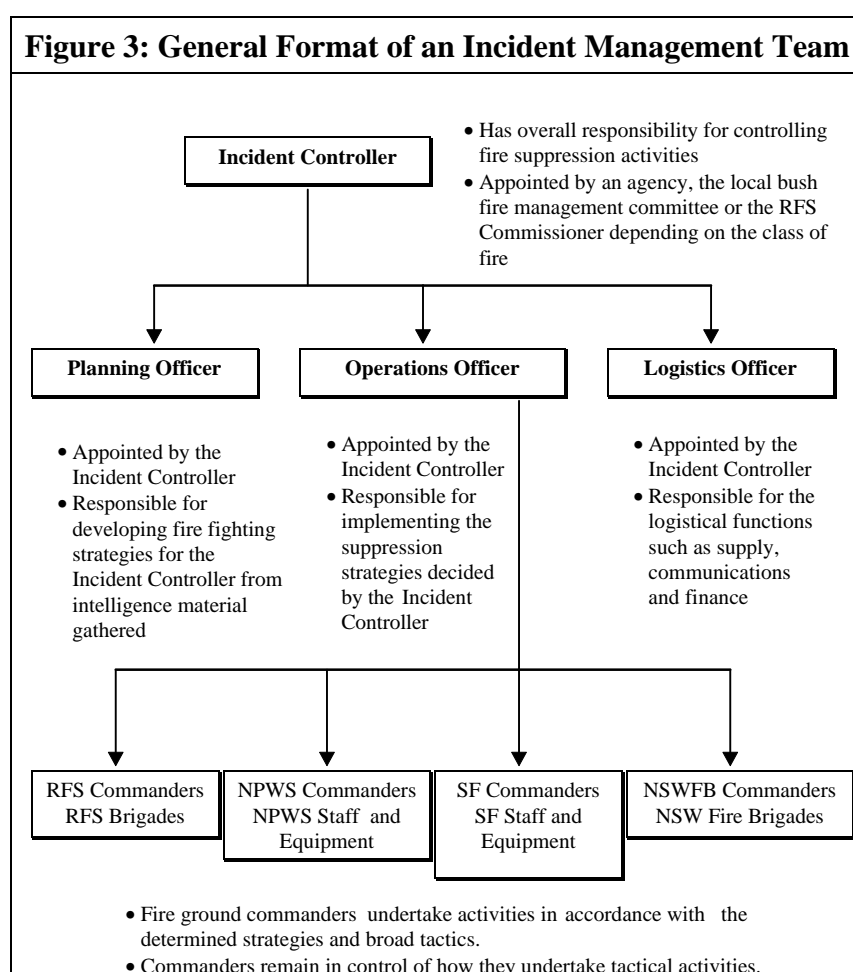
### Incident Management Teams

Large fires require the formation of an Incident Management Team (IMT) within the Incident Control System (ICS).

<sup>13</sup> An incident controller will be appointed in smaller fires by the agency with overall responsibility for the fire. The powers available to such controllers will be those stated in that agency's delegations. S44 appointments give incident controllers broader powers to effectively manage more serious fires.

An ICS is a system of delegation of functions at an incident, so that an effective management team can be structured in a standardised way, matched to the needs of the incident. The ICS defines the responsibilities and activities for the control of fire operations and the management of resources during those operations.<sup>14</sup>

IMT size and the functions undertaken will depend on the size and duration of the incident. For example, during a small fire the incident controller may undertake all functions. However, the general structure of an IMT is shown in Figure 3.



<sup>14</sup> There is no legislative basis for the IMT in the RF Act. The only IMT position allocated specific powers under the RF Act is that of an incident controller appointed under s44.

IMTs may comprise members of the one agency (usually for single agency fires) or from several agencies (for example, in the case of Class 3 fires). The incident controller determines, in consultation with the IMT, the overall strategy to be used to suppress a fire.<sup>15</sup> However, command structures for each agency's fire fighting personnel remain within the respective agency.

There are conflicting reports on the success of the ICS in NSW coordinated fires.

**Differing  
Understanding  
of ICS Exist**

Difficulties have arisen because different stakeholders have different understandings of their role and level of command. The ICS used within the NPWS and some other agencies is the full national AIIMS<sup>16</sup> system that gives direct control of resources to the operations officer. The NSW rural fires ICS does not give this power and individual agencies retain *operational* as distinct from *strategic* control over their resources.

During the past fire season there were several reports of IMTs being staffed with personnel from outside the local area while appropriately qualified and experienced local personnel (with extensive local knowledge) were available but not used. IMTs are designed to assist cooperative fire fighting and are not intended to replace local management and control of incidents.<sup>17</sup>

The distribution of brigade members qualified in ICS is uneven across the State. NPWS and State Forests have trained many of their staff in ICS methodologies, and these agencies use this methodology for other incidents that they respond to (such as cetacean strandings and pollution events). Often staff from these agencies are appointed to IMT positions because they are the only suitably qualified personnel available locally.

**Pay Structures  
Causing some  
Unrest**

Joint field operations may involve paid agency staff working alongside volunteers. Some Awards provide for overtime to be paid to agency staff during incidents. There is some evidence of disharmony being generated from this situation.

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<sup>15</sup> The incident controller has overall responsibility for managing an incident. However, ICS aims to assist controllers by allowing delegation of responsibilities for specific functions to other members in the IMT. In this way the incident controller can concentrate on the overall strategies for addressing the incident and leave the operational implementation to other members of the team.

<sup>16</sup> AIIMS is an acronym for the Australian Inter-agency Incident Management System.

<sup>17</sup> The RFS Commissioner in February and April this year issued instructions that wherever possible local people are to fill IMT positions. This issue is being addressed further through the new s52 Plans of Operations.

### Measures to Address ICS Difficulties

Agencies are addressing ICS issues through a mixture of joint exercises and training courses. Joint hazard reduction activities provide a good venue for encouraging development of IMT skills. Further training of basic fire fighters in the roles and responsibilities of the IMT will also assist to overcome at the brigade level the problems identified above.

#### **Training for all Positions in the IMT is Required**

ICS training is being undertaken by each agency with particular emphasis on training incident controllers. There is a need also to provide training for persons likely to be on the specialised teams of planning and logistics. Currently there is a lack of suitably experienced and qualified people to fulfil these roles.

Each bush fire management committee is required to produce a listing of nominees from their rural fire district for the position of incident controller in a s44 declared fire. There is merit in bush fire management committees also developing lists (for local use by s44 appointees or local controllers in other instances) of suitably qualified persons to fill other functional positions within IMTs.<sup>18</sup>

#### **Communications need to be Improved**

Communications during fire suppression activities require improvement. Communication blockages amongst members of the IMT, and between fire sector commanders and the IMT, adversely affected several major fire operations last season. Examples of communication blockages included:

- poor intelligence flows between IMTs and fire grounds and duplication of effort because of poor radio communications
- sector commanders not implementing satisfactorily fire strategies because of a lack of resources or not being fully aware of the objectives and requirements of the fire strategy
- resources arriving at a fire ground without the sector commander's prior knowledge or request. In some instances the resources could not be used effectively
- IMT planning teams developing strategies without proper regard for the resources available to the operations officer.

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<sup>18</sup> The new model plan for s52 Plans of Operations approved by the BFCC requires bush fire management committees to list nominees for the four key positions in the IMT.



Clear communications and liaison arrangements can minimise such difficulties. Communications procedures need to be developed between agencies, and between potential members of IMTs, prior to incidents to ensure good two-way flow of information. It is not sufficient, for example, for sector commanders to assume (or have to assume) that if a request has been made for resources that these resources will be provided as and when requested.

**An IMT  
Implementation  
Checklist Would  
be Useful**

An IMT implementation checklist detailing a communications strategy would be useful to ensure that adequate communications arrangements were implemented from the first day of an incident.<sup>19</sup>

**Implementation Difficulties With Radio Systems**

**Different Radio  
Systems Used**

The recent fire season highlighted radio communications problems amongst rural fire fighting authorities. These arose partly because RFS use different radio systems to NPWS and State Forests.

RFS uses the UHF Government Radio Network (GRN) system and a Private Radio Network (PRN) system linked to GRN for areas outside the GRN coverage area. However, neither NPWS nor State Forests have adopted the GRN system, preferring to remain with their existing VHF systems.

Because the VHF and UHF systems are not compatible, RFS cannot communicate directly at the site of a fire to other fire fighting authorities. Both NPWS and State Forests expressed reservations about the GRN system for their needs.<sup>20</sup> These agencies also suggest that their VHF systems are operationally superior for their needs than UHF systems.

The RFS too has reservations about the GRN system's ability to serve adequately the needs of emergency response agencies. As a result the RFS is expanding its PRN and will soon have the ability to provide a car-to-car radio service across the entire State. RFS advised that all other emergency agencies will be able to link to this system, thus providing an effective emergency communications network for the first time. However, further development of this system is still required before it can achieve this goal.

**Difficulties were**

Fires during the recent season highlighted operational problems

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<sup>19</sup> New guidelines approved by the BFCC require that communications plans must now be prepared as part of s52 Plans of Operations and exercises must be conducted to test systems before the bush fire season.

<sup>20</sup> These agencies are concerned that GRN may be unable to manage the volume of radio communications that occurs in emergency situations where radio traffic increases dramatically.

**Highlighted  
during the Last  
Fire Season**

from fire fighters not being able to contact each other directly. RFS suggested that correct procedures would be for one fire fighting authority to contact its base at the fire control centre. Control staff would liaise with staff from the second agency, the staff of which would then relay the message back to that agency's fire fighters.

However, some operational staff regard this as a cumbersome arrangement that in critical situations may cause further difficulties for fire fighters. Local fire commanders and fire fighters remarked that direct contact with other agencies' personnel on the fire ground is essential.

Agencies have incurred the additional expense of purchasing mobile radios capable of communicating directly with other systems. This seems an unnecessary duplication of resources. RFS advised that when fully operational its PRN system would remove this problem.

Further work on addressing radio communications needs to be undertaken as a priority.

## **2.5 The Cost of Major Fire suppressions**

Fire suppression relates to any activity that is designed to extinguish fires or mitigate the effect of those fires. Although most fire fighting authorities agree that it is more efficient and effective to emphasise prevention strategies, most resourcing currently is placed into the suppression of fires.

The funding arrangements for fire suppression depends on the severity of the fires and the manner in which they are being fought. As a general rule, communities are expected to bear the costs of any fires within their area. Local communities also are expected to make use of their own resources before they apply for assistance from outside the area.<sup>21</sup> However, as shown in Case Study 1 large fire suppressions can be very expensive.

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<sup>21</sup> In practice this requirement is often modified. Some assistance may be made across local government boundaries from neighbouring councils if requested. Similarly not all local resources will be committed to a fire; there is usually a reserve held in case fires break out in other areas.

**Case Study 1: Costs of Fighting Remote Fires**

The fires that occurred in the area around Lake Burragorang south west of Sydney represent an informative case study of the difficulties faced by rural fire fighters and the costs that may arise from fighting a major incident.

The fires started on 26 November 1997 and resulted from lightning strikes in very remote and rugged terrain. Significant efforts on the part of RFS, NPWS, Sydney Water and other emergency response agencies over a period of six weeks were required to bring this fire under control. In the weather conditions prevalent at the time, the fires offered potential threats to several townships and if left unsuppressed could have threatened townships within the Blue Mountains, Mittagong and Wollongong areas. Eventually approximately 79,600 hectares were affected by the fire incident.

A variety of strategies were used to combat the fire including aerial incendiary attacks, back burning, constructing containment lines, direct attacks, remote fire fighting and the use of foam and retardants. These fires required large amounts of resources in part because of the difficulties posed by the area.

It is estimated that several thousand person days were expended in containing this fire and at the height of the fire 16 aircraft, 45 fire appliances and 250 personnel were involved in the incident. The overall cost of this fire has not yet been determined but at 30 June 1998 the NPWS costs alone amounted to over \$3 million.

However, the potential impact of these fires is significant. Lake Burragorang supplies over 70 per cent of Sydney's water supply. Over 70 kilometres of lake foreshore was burnt and this will result in an anticipated localised decline in water quality. For example, Sydney Water will incur additional costs of over \$2 million each year because of the need to undertake additional filtration of the water in the lake. Increased levels of sedimentation may also affect the economic life of the dam. The true affect on water quality may not be known for some time but will almost certainly be an issue in the medium to long term.<sup>22</sup>

**Funding Depends on the Severity of the Fire**

The financing arrangements for major fires vary depending on the severity of the fire. One of the primary outcomes of appointing an incident controller under s44 is that the cost of large campaign fires are not borne totally by the local community but are shared by the State as a whole.

<sup>22</sup> Lake Burragorang Fire Rehabilitation Plan, Version 2 (23 February 1998), p4.

Under these arrangements the Rural Fire Fighting Fund (RFFF)<sup>23</sup> will, through the RFS, meet the cost of resources that have to be brought in from outside the rural fire district. Agencies will still have to meet the costs of their own local resources.

Uncertainty exists at an operational level about what expenditure is allowable under s44 arrangements and how accountability mechanisms are to function.

For example, instances have occurred where the RFS rejected as ineligible claims for reimbursement of expenditure that agencies believe they incurred legitimately under s44 arrangements. Another area requiring guidance is whether an agency undertaking suppression activities with local resources but on behalf of another agency can claim the costs of that activity under s44 funding.

Preparedness is an area not adequately provided for within existing RFFF arrangements. Although some hazard reduction activities are funded by the RFFF, other activities are not claimable unless a s44 declaration is made.

Some rural fire fighting authorities consider that RFFF arrangements act as a disincentive to using the most effective strategy at the outbreak of a fire (because they do not allow adequate preparatory activities to occur). These agencies advised that aircraft can be very effective if used early enough, before fire intensity grows and a s44 declaration is considered. However, present funding arrangements preclude large scale early usage of aircraft because agencies are unsure whether the costs of such activity will be recoverable. Similarly, agencies may not employ sufficient aircraft on standby (for quick response on high risk days) for the same reason. The issue of aircraft usage is discussed later in this chapter.

RFS advised that local government can claim reimbursement for small amounts of expenditure (\$2-3,000) on aircraft used locally for any fire related purpose; such reimbursement is made from the RFFF without the fire being declared under s44. However, this amount may not be adequate in high fire risk situations.

Further consideration of this area would be beneficial.

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<sup>23</sup> The operations of the Rural Fire Fighting Fund are discussed further in Chapter 3.

### A Need for Clear Guidelines on S44 Reimbursement

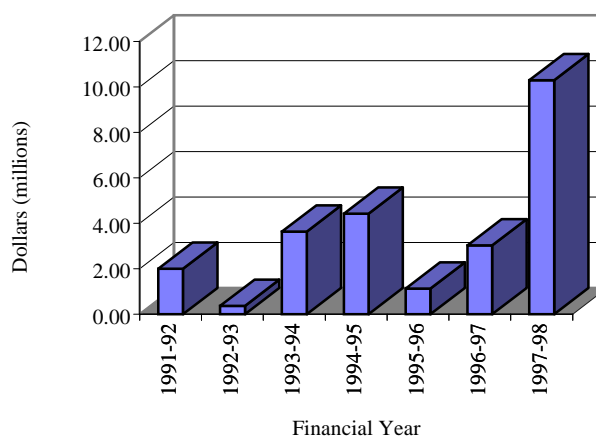
The RFS operations manual includes guidelines for reimbursement under s44 arrangements. However, it is apparent that there remains confusion amongst agencies' staff as to what is recoverable from the RFFF during s44 emergencies. The RFS recently issued amended guidelines to clarify cooperative resourcing cost arrangements when fires are contained solely to one agency's lands but this does not address all current concerns. Further guidance on reimbursement arrangements is warranted.

### NPWS Managed Fund Arrangements

NPWS subscribes to an "insurance" arrangement with the NSW Treasury Managed Fund which also reimburses costs arising from emergency situations. A premium is paid by NPWS to the Managed Fund each year; the amount to be paid is determined by Treasury on the basis of previous history and risk.

In emergency situations NPWS will claim from the Managed Fund the costs incurred in fighting fires. The objective of this is to cushion NPWS' normal operations from the draining effect of having to fight bush fires. In this way the financial operations of the NPWS will not be adversely affected. The amounts claimed by NPWS are shown in Figure 4.

**Figure 4: Claims on Managed Fund by NPWS**



The amounts claimed by NPWS in 1997-98 result from the busiest fire season in the history of the Service with over 50 per cent more fires being fought than in 1993-94. Also NPWS has an ever increasing estate to manage. In 1991 NPWS managed 3.8 million hectares; by 1998 this had grown to 4.6 million hectares and the Government has foreshadowed the establishment of many more parks.

The Managed Fund arrangements may not necessarily lead to the most economical and efficient fire strategy being used. There is a possibility that incident controllers may commit more resources to a fire if they are aware that their agency will not have to bear the costs. However, NPWS advise that its staff are trained to analyse and select the most cost effective strategy for fire suppression, and are aware that claims affect future premiums.

**Operational  
Strategies Affect  
Costs**

In most fires there will be more than one strategy available to the incident controller.<sup>24</sup> But strategies available to agencies will often vary in the amount and cost of resources required.

For example, State Forests advised that it relies heavily on ground crews, manual suppression activities and working fires out to natural or man-made containment lines such as creeks and roads. To enable implementation of this strategy State Forests has developed networks of fire trails through forests to allow access for ground crews. Other agencies may not have such advantages and may employ more expensive methods.

**Use and Cost of Aircraft**

A perception appears to have developed in some quarters of the general community that fires are not effectively fought without aircraft involvement. However, others express concern over the number of aircraft being used in fire fighting and the cost that this represents. Certainly aircraft represent an expensive resource sometimes with limited effectiveness.

Of the major rural fire fighting authorities, NPWS is the main user of aircraft. This agency has a particular need because it has management of the roughest terrain in the State where access to fight fires is difficult and often may only be possible by aircraft. NPWS maintains its own fleet of aircraft.

**Not all Fires can  
use Aircraft  
Effectively**

Not all fires fire situations will suit the effective use of aircraft. Generally the window of opportunity for effective use of aircraft is small. Aircraft may be used for fire spotting, fire ground reconnaissance, aerial fire mapping, personnel transport, fire operations command, aerial ignition for burning out and hazard reduction. All of these uses of aircraft have very high success rates.

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<sup>24</sup> It is the role of the planning section to develop fire fighting strategies for the IMT. These strategies will be ranked on criteria such as cost and likelihood of achieving objectives.

The popular image of aircraft presented by the media, however, is that of the water bombing of fires. Although this can be a reasonable strategy to adopt, its application is limited to certain circumstances.

Water bombing is most useful in slowing down the progress of small, low intensity fires (typically spot fires, recently ignited fires or fires burning at low intensity due to fuel or weather conditions). The likely success of water bombing is very much related to having the aircraft positioned for quick response.

Some rural fire fighting authorities have suggested that current funding arrangements act as a disincentive to effective use of aircraft. They suggest that resources would be better used (and achieve a more satisfactory outcome) if available for rapid response before an incident develops into a high intensity fire.

Anecdotal evidence suggests that a disproportionate number of water bombing aircraft are used during s44 declared fires. S44 declarations are made once fires reach proportions which are beyond the capacity of locally available resources to control; when they are large running fires. Yet evidence suggests that water bombing is not very effective (and in most cases is ineffective) against high intensity fires.

More analysis into the effectiveness of aircraft in rural fire fighting needs to be undertaken.

If water bombing is to be used then there needs to be good communications between airborne and ground fire fighting controllers so that each party understands the objective and the limitations of the air strategy being used. Anecdotal evidence suggested that this aspect is not yet satisfactorily addressed.

**Suitable Aircraft  
may not be  
Available  
Locally**

Suitability of aircraft needs to be further clarified with all stakeholders. Although aircraft may be available in a local community, they may not be capable of effective fire assistance. An example is the need for aircraft to have adequate radio systems. In one incident an aircraft water bombed the wrong area because ground fire fighters could not communicate with the pilot.<sup>25</sup>

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<sup>25</sup> The RFS contracts for aircraft each fire season that are available for use by all rural fire fighting authorities on a priority basis. All aircraft engaged under RFS contracts are required to have compatible air-to-ground communications equipment. However, aircraft engaged locally may not be subject to this requirement.

Another example is that there are few aircraft available in NSW with winch gear capable of lowering remote area firefighting teams into inaccessible terrain.

**RFS Controls  
Aircraft  
Allocation**

RFS controls the general aircraft allocation to fires, and monitors the contracts for aircraft. Fire commanders request aircraft assistance from the RFS control centre which then prioritises all requests and allocates resources on a needs basis. RFS also ensures that aircraft being contracted are suitable for the tasks being undertaken.

The RFS Hunter Regional Coordinator is currently preparing new guidelines and operating instructions for managing the use of aircraft.

## **2.6 Measuring Performance**

**Satisfactory  
Assessment and  
Evaluation not  
yet Achieved**

The assessment and evaluation of fire fighting operations is yet to be achieved satisfactorily. The gap caused by the lack of quantified data on fire operations and empirical evidence on the success of competing fire fighting strategies makes the overall assessment of the fire suppression function difficult.

Present arrangements for post-operational assessment largely revolve around debriefing sessions held locally after fires and the s44 reports (previously the s41F reports under the Bush Fires Act) prepared by the local incident controller for the RFS Commissioner after each major fire.

Case Study 2 shows some of the performance measures used by NSW fire fighting authorities.



**Case Study 2: Performance Measures Used for Rural Fires**

Currently there are no agreed performance measures developed and used by each NSW rural fire fighting authority. The quality and quantity of information provided by agencies also varies.

The most common performance indicators used are measures of damage from a fire incident; number of lives lost; the number and value of properties lost; and the number of hectares burnt. Fire fighting agencies often use time and resource measures to determine the capability of their service; response times to incidents; time taken to bring an incident under control; number of appliances used at an incident.

Although useful, these measures do not provide meaningful measures of how efficient or effective the service is being provided or the costs to the State of a particular incident. Other measures are being developed to address these needs. For example, the NPWS in its Annual Report identifies the number of fires that start in parks and how many are kept within park boundaries. Similarly, it identifies the numbers of fires which start outside parks and then enter NPWS-controlled areas. Such information is useful in determining how successful an agency is meeting its fire prevention and suppression obligations under the RF Act.

State Forests suggests that a useful measure would be the size of a fire and the cost per hectare of suppression activity. The former measure can indicate how successful an agency is in responding to fires before they develop in seriousness. The latter measure may indicate whether an agency has been economical in its use of resources in bringing a fire incident under control.

A mixture of these performance measures needs to be agreed by the BFCC and promulgated to all agencies. At present there is no method of comparing fire fighting activities across agencies making it difficult for the Parliament, Government and the community to determine whether rural fire fighting activities are economically, efficiently and effectively undertaken.

Debrief sessions provide an opportunity for all participants in a particular fire event to discuss the operations during that fire. It provides a useful forum for presenting local issues of concern to fire fighters.

Whilst acknowledging the usefulness of post-fire debriefing sessions, some participants advised that in practice there is little in the way of critical analysis, especially of management and outcomes of a coordinated fire suppression activity, occurring at debriefs.<sup>26</sup>

### **S44 Reporting**

S44 reports are required to be prepared for the RFS Commissioner by incident controllers after each s44 fire incident.<sup>27</sup>

There is currently no standard format for s44 reports and the quality and useability of reports varies. Many reports present the details of local issues without addressing “big picture” issues making any analysis difficult.

There is usually no overall critical assessment of strategies used in fighting the fire or whether other strategies rejected by the IMT during the fire operation would have been more effective (with the benefit of hindsight).

Reporting on the level of resources used and the damage caused by the fire does occur, but there is no specific performance measures of economy, efficiency and effectiveness developed. No evaluation of agencies’ effectiveness in fire suppression activities was able to be evidenced during the audit.

It is acknowledged that difficulties exist in measuring and quantifying performance because of the number of variables: weather; terrain; risks; resources available; and fuel levels. Each fire is different.

It is further acknowledged that there are difficulties (and dangers) in extending evaluation procedures into what is largely a volunteer domain. Volunteer fire fighters may be justifiably aggrieved if they feel their (voluntary) efforts are not appreciated and may resent any increase in the administrative burden placed on them.

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<sup>26</sup> Several fire commanders advised that they were reluctant to criticise another agency’s management of a fire at debriefs and bush fire management committees. These commanders stated they would have to work with the same agency staff during the next fire season and were conscious of the potential negative effect on local cooperation that adverse comments could generate.

<sup>27</sup> For very large fires bush fire management committees will meet to consider recommending to the RFS Commissioner that he appoint an incident controller under s44 of the RF Act. The S44 Report to be prepared contains an account of the fire, resources used, the damage sustained (including any injuries and loss of life), deficiencies in equipment/procedures/training, and any recommendations for improvements.

Nevertheless, the development of relevant, comprehensive and quantifiable measures would greatly assist post-operative appraisals and efforts to continuously improve rural fire fighting. It may also assist to overcome some of the historical tensions that remain amongst rural fire fighting stakeholders by providing quantified evidence of performance and improve transparency of decision making processes.

The development and promulgation of improved performance measures should be given priority. In doing so, an innovative approach will be necessary to ensure that the needs of volunteers also are addressed. A time consuming forms-based approach would not be suitable.

## **2.7 Recommendations**

It is recommended that:

1. The RFS and local government give higher priority to addressing outstanding issues regarding FCOs.
2. All rural fire fighting authorities take adequate action to ensure that:
  - there is agreed understanding on the Incident Control System and the roles and responsibilities of each functional area in the Incident Management Team
  - training for prospective Incident Control Team members be undertaken to reinforce such an understanding at all levels of operation.
3. Bush fire management committees be required to develop adequate communications strategies for their rural fire district and that these strategies be:
  - promulgated widely amongst all relevant stakeholders
  - supported by brief checklists to be completed at the commencement of a fire activity.
4. Priority be given to addressing the difficulties with radio communications amongst rural fire fighting authorities. If a single radio communication system for all agencies is not feasible then adequate communications protocols should be developed.

5. The RFS:
  - develop and promulgate comprehensive guidelines on what is allowable expenditure under s44 arrangements
  - enhance finance and purchasing training for personnel undertaking the logistics function.
6. The procedures for requesting aircraft in fire suppression activities be reviewed to include more objective and quantifiable criteria for fire controllers requesting aerial assistance.
7. A standard suite of performance measures be developed for use by all rural fire fighting authorities when reporting on fire suppression activities.

## **3 Rural Fire Resourcing**

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### 3.1 Rural Fire Resourcing

Under the RF Act the obligation for protecting land from fire rests with each landowner. To meet this obligation landowners must have suitable fire fighting equipment available and maintained to working order.

Along with this general requirement, the RF Act also acknowledges agencies as fire fighting authorities; that is the RFS, NSW Fire Brigades, NPWS and State Forests. Each of these agencies commits resources to provide the primary fire fighting capability in rural NSW.

### 3.2 The Rural Fire Fighting Fund

#### Objectives of the Fund

To assist in meeting the costs of obtaining and maintaining the equipment required by rural fire brigades the RF Act established the RFFF.

The RFFF is funded by contributions from the NSW Government (14 per cent), local government (12.3 per cent) and the insurance industry (73.7 per cent); these proportions are specified in the RF Act. The present fund replaces a similar fund (the Bush Fire Fighting Fund) that existed under the former legislation.

The total amount of funding available for distribution through the RFFF each year is determined by the size of the NSW Government component. Once this is determined then the total amount available for the RFFF for that year will be 7.14 times the State's contribution.

#### Contributions by Local Government

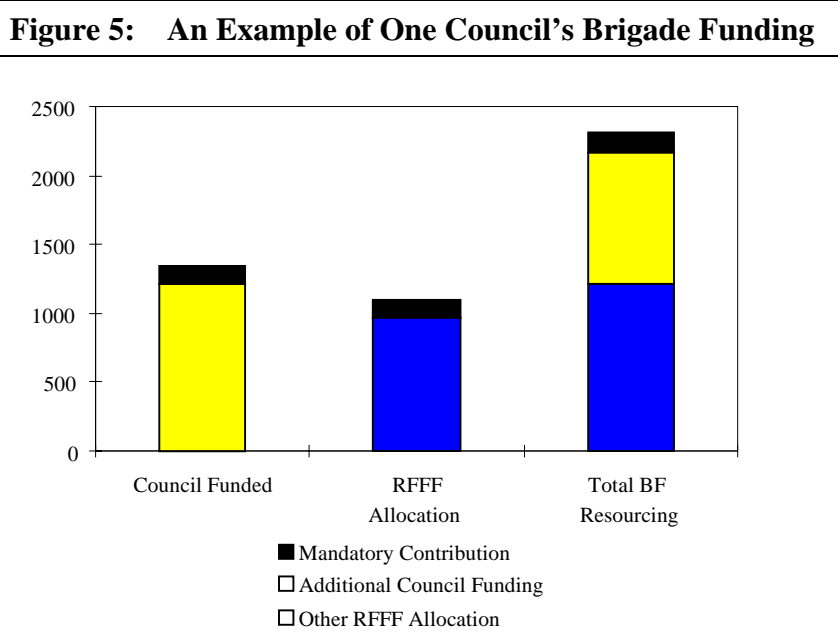
The contributions provided by local government come from councils that are wholly or partly outside any fire district constituted under the *Fire Brigades Act* 1989. The RF Act specifically states that contributions made by local government must come from council rate income and not from donations or other voluntary contributions unless the Minister approves.<sup>28</sup>

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<sup>28</sup> Notwithstanding this requirement, the amount of contribution payable by a council may be raised, if necessary, by an increase in the ordinary rate applied in that local government area. Councils that can prove their risk from bush fires is negligible may be exempted from making contributions to the RFFF.

Some councils make significantly higher contributions than required by the RF Act. These councils tended to be in areas of very high bush fire risk and a history of devastating fires.

The council used as an example in Figure 5 made a significantly greater contribution towards rural fire fighting expenditure in its area for 1997-98. That council's mandatory (minimum) expenditure would have been 12.3 per cent of its total bid for RFFF funding. However, its total contribution represented 58 per cent of the total rural fire fighting budget for the year.<sup>29</sup>

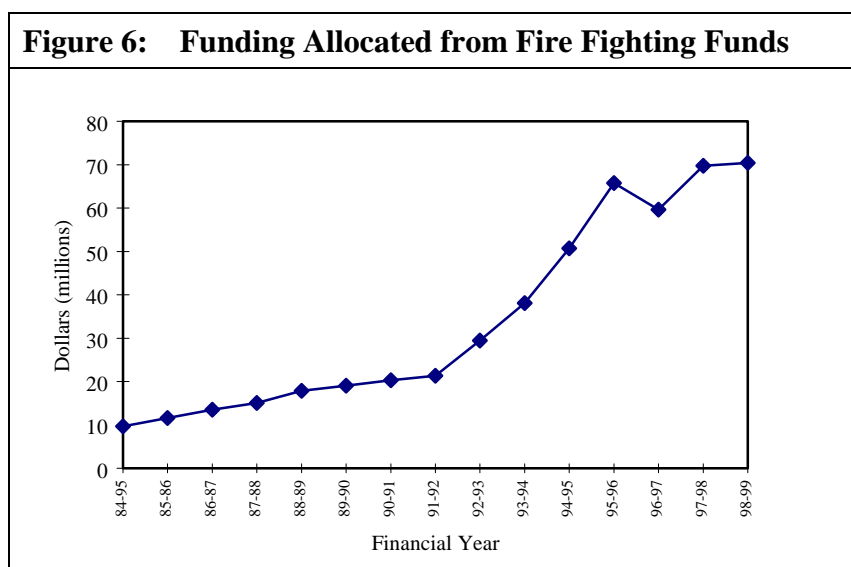


### Many Councils have Difficulties meeting RFFF Contributions

Many councils state that they have difficulties in meeting their obligations to the RFFF because of a small rate base. Anecdotal information suggests that many councils are providing only the minimum contribution required under the Act. The RFS Commissioner has powers under the RF Act to force councils to contribute more to the RFFF if he considers the risks warrant increased expenditure; this power is yet to be used by the Commissioner.

The size of the RFFF (and former Bush Fires Fighting Fund) has increased significantly in the last few years. The amount allocated from the Funds in recent years is shown in Figure 6.

<sup>29</sup> That council levies a bushfire/emergency services levy (along with its normal council rates) to assist in funding these services. Such a levy is allowed by s110(2) of the RF Act.



Note: Bush Fire Fighting Fund to 1996-1997; thence RFFF.

### Allocation Process

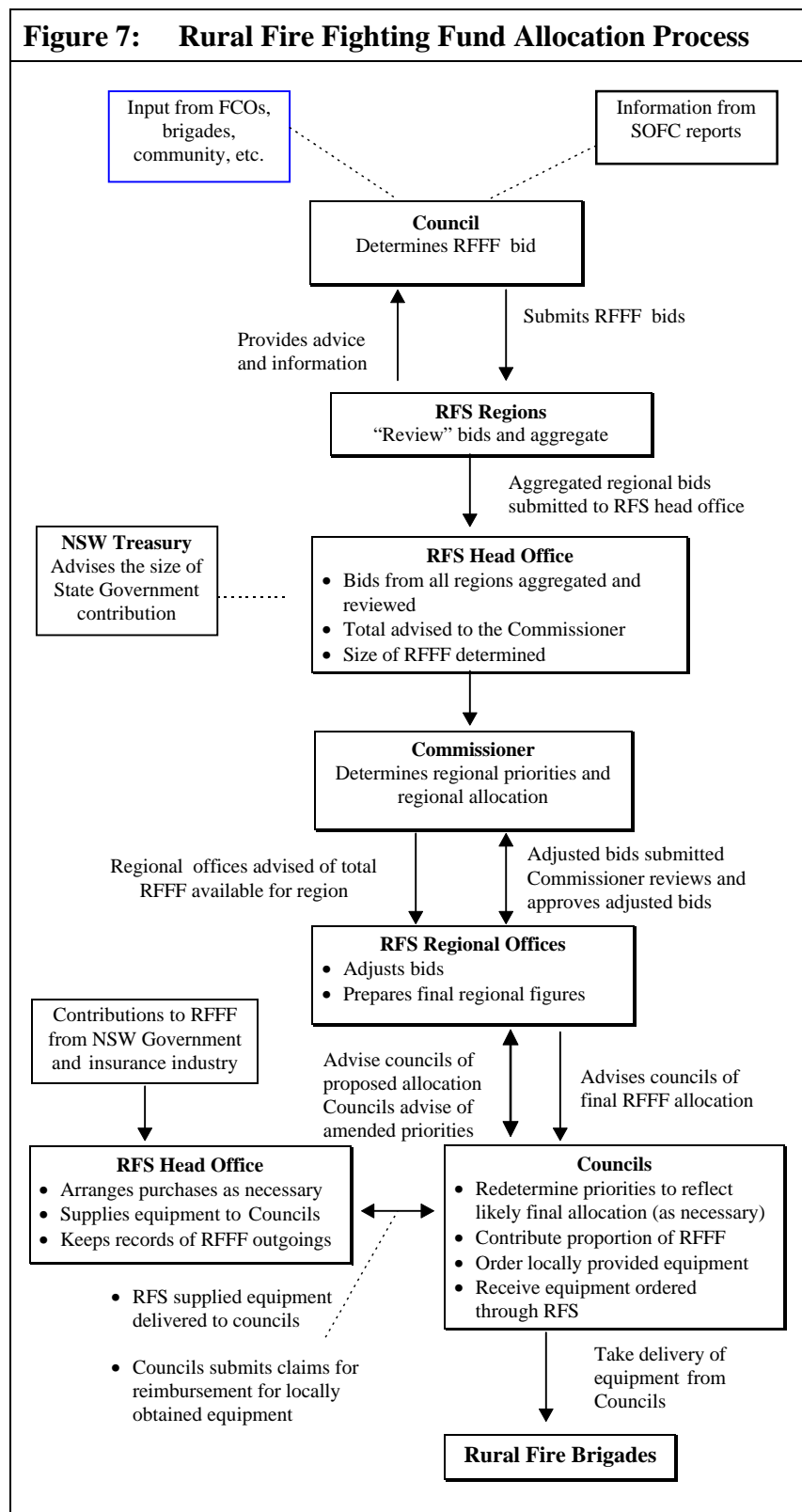
#### Bidding Process used

The allocating of funds to equip local brigades is by way of a bidding process. Bidding is through the local council which determines priorities within the local government area. Rural fire brigades do not bid directly to the RFFF for resources.<sup>30</sup>

The proportion of the fund contributed by each local government area will be determined by the final allocation of funding approved from the RFFF. The contribution from individual councils will be 12.3 per cent of the amount approved. The current allocation process for RFFF resources is shown in Figure 7.

<sup>30</sup> All fire fighting equipment bought wholly or partly from funds provided by the RFFF is vested in councils rather than individual brigades. Councils also have responsibility for fuelling and maintaining that equipment.

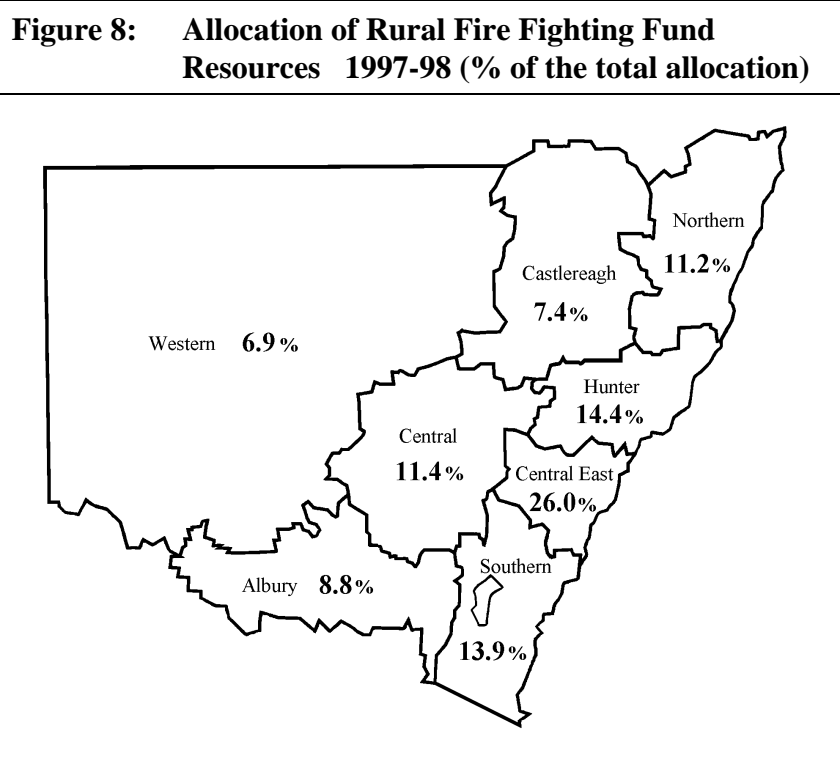


**Figure 7: Rural Fire Fighting Fund Allocation Process**

**Current  
Allocation  
Procedures  
favour some  
Councils**

Although the RFS Commissioner may set priorities for areas to receive more favourable allocations of RFFF funds, the bidding process tends to favour councils with larger rate bases and income streams. Such councils are able to bid for more funding because they are able to make a larger contribution under their mandatory component than other councils. However, usually such councils also have more properties at risk, have larger numbers of valuable properties to protect and respond to more incidents in a fire season. RFS advises that to address this issue allocations are now made on capacity to service a particular community need.

The 1997-98 funding allocations made from the RFFF shown by RFS regions appears in Figure 8.



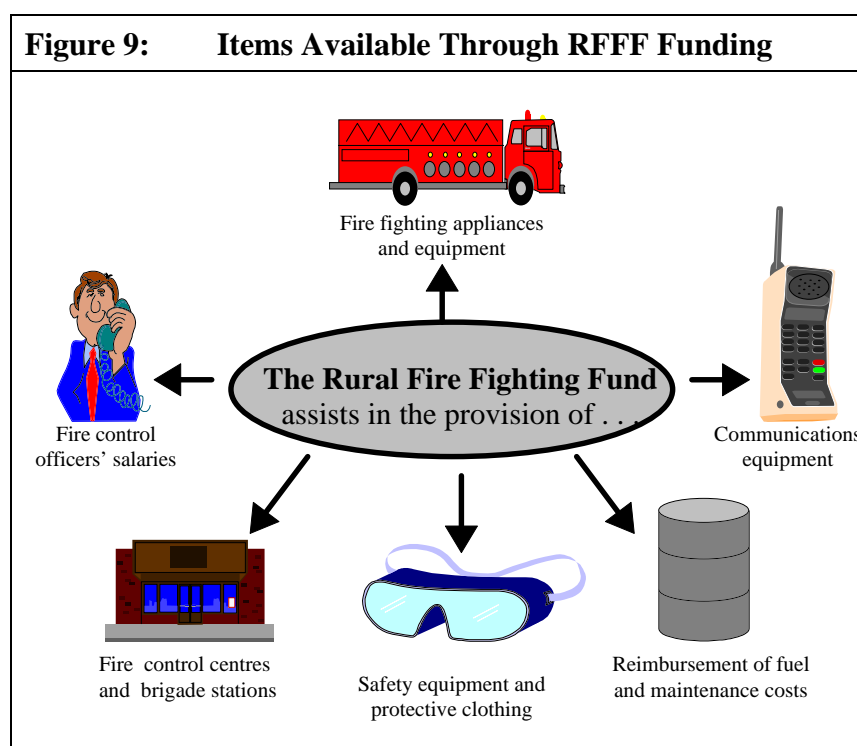
**Uses for Funds from the RFFF**

The RF Act states that contributions contained in the RFFF may be applied in or towards expenditure incurred by rural fire brigades.

The main purpose of fire fighting funds has been to assist brigades in buying equipment such as fire fighting apparatus, portable equipment such as pumps, and protective clothing. Capital expenditure for fire stations and fire control centres may also be submitted for RFFF funding.

Besides purchasing new equipment, bids on the RFFF can also seek reimbursement for certain outgoings necessary for the operations of rural fire brigades. These outgoings (recurrent expenditures) can include the salary costs of the FCO and deputy FCO, maintenance costs for fire appliances and equipment and the cost of fuel for appliances and equipment.

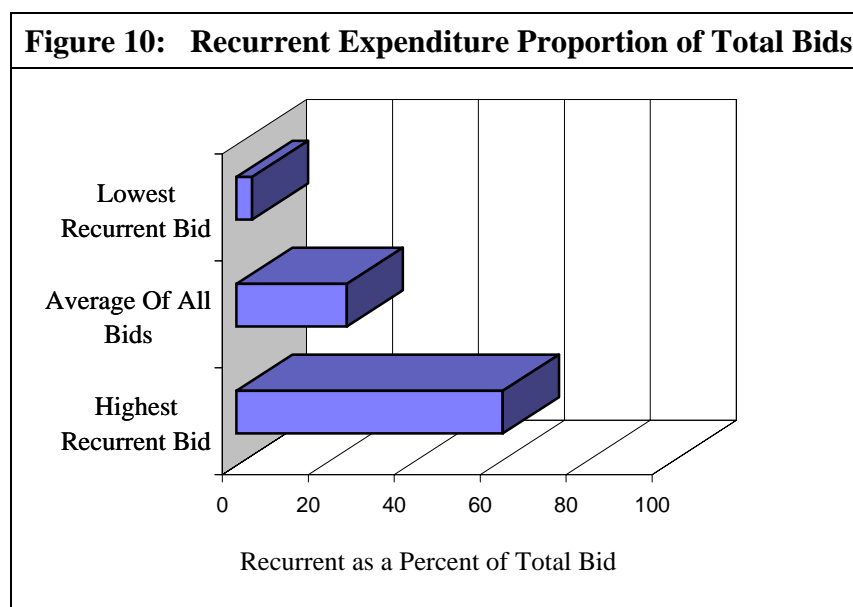
Some of the items that councils may obtain using RFFF funding are shown in Figure 9.



### Savings Opportunities

An unexpected high level of RFFF funding is being used for recurrent expenditure in some areas. The RFS has noted in one example, a council's bid for recurrent expenditure increased 96 per cent in three years.

Wide disparity exists amongst councils between the amounts claimed for equipment and that for recurrent expenditure. The amount of recurrent expenditure in bids submitted for 1997-98 RFFF funding varies from 3.6 per cent up to 62 per cent of the total bid. The proportion of recurrent expenditure in bids for 1997-98 is shown in Figure 10.



Source: Prepared by TAO from data supplied by the RFS.

Recurrent expenditure items are legitimate expenditures claimable from the RFFF. Nevertheless, guidelines on the allocation of funding need to be reviewed to encourage more efficient and effective use of resources.

For example, although replacement of tankers involves considerable initial expense, significant maintenance saving to councils (and to the RFFF) can result from replacing old and unreliable equipment.<sup>31</sup> Some RFS regional offices have noticed declines in the amount of maintenance reimbursements requested by councils where this has occurred.

Further savings are possible if RFS actively encourages the replacement of uneconomic equipment. One method that could be used to achieve such an objective is to reimburse council maintenance costs based on a formula for small, medium and large tankers rather than the current system of reimbursing actual costs.<sup>32</sup>

<sup>31</sup> The need to replace tankers identified as aged and beyond economical repair is being addressed. For example, the Government in the 1995-96 Budget allocated additional funding to accelerate the RFS' tanker replacement program. The objective of the program is to have all rural fire tankers in NSW no older than 15 years by 2003.

<sup>32</sup> Such a methodology would be easier to administer as RFS would not have to verify actual costs; the costing formula would be applied to the type and number of tankers in each local government area. It would encourage upgrading of fleets to more efficient and economic units by allowing only a reasonable amount of maintenance costs for the type of tanker and the usage made of the vehicle.

### Misuse of Fire Fighting Resources

The RFS has identified instances where misuse of resources bought with funding from the Bush Fire Fighting Fund has occurred. The more flagrant examples are referred by RFS to the Internal Audit Bureau for investigation. Case Study 3 provides an example of discrepancies that have been investigated.

#### Case Study 3: The Case of the Missing Pumps

RFS has identified many instances of potential abuse of State provided fire fighting equipment. For example, fire fighting equipment has been sighted being used for sheep dipping, pumping household water and crop straying. Portable pumps bought for fire fighting have been found concreted beside dams.

RFS also found deficiencies when auditing inventory records in some areas. In one area, 89 portable pumps purchased with RFFF funding could not be accounted for during RFS inspections.

Inventory controls tend to be weakened because equipment bought under the RFFF (and the former Bush Fire Fighting Fund) is vested in councils which in turn distribute this equipment to their local brigades. Records of equipment are kept at a local level and there is not a central repository of information on the distribution of equipment to brigades.

#### Accountability Mechanisms for Equipment could be Improved

Until recently there has been no emphasis on ensuring that proper records are kept of equipment bought for rural fire brigades. There has generally been no systematic inspection of this equipment to ensure that it is maintained in working order or even that it is available for fire use.

Annual reporting of items is limited to the reporting of major equipment such as tankers that is contained in the annual bidding schedules for the RFFF.

It is important to introduce adequate measures to account for current equipment and ensure the problem does not continue. If equipment is to continue to be vested in councils, councils should be accountable for that equipment.

### **Reimbursement of Program Costs from the RFFF**

Along with direct funding of brigades the RFFF also resources ‘program’ costs. These are the costs of the RFS corporate function (the running of RFS itself as distinct from the local brigades) and programs such as community education, hazard reduction and aircraft.

The recurrent expenditure concerning the administrative costs of the RFS Advisory Council<sup>33</sup>, the BFCC or the Minister is also payable from the RFFF.

#### **RFFF Program Items cause some Councils concern**

The inclusion of these ‘program’ costs causes concerns for some councils which claim that they make budgeting difficult, especially for councils with small rate bases. Difficulties arise because councils have to prepare their budgets and have a rate structure approved before they know the final allocation of funding from the RFFF (and the level of their 12.3 per cent contribution).

Although RFS sends guidelines to each council at the beginning of the year suggesting that an overhead component be allowed by councils in the bidding, some councils have complained about the great variations from year to year in costs for program items. Similarly an “over expenditure” may occur if the cost increases for equipment after a council’s bid (based on a now out-of-date cost) occurs. Any unforeseen increases in program or equipment costs (and the resulting increased statutory RFFF contribution) may affect smaller councils severely.

#### **Councils’ Statutory Contributions reduced in 1993**

RFS in response to councils’ concerns emphasises that councils’ statutory contributions to the Bush Fire Fighting Fund were reduced in 1993 from 25 per cent to 12.3 per cent; this rate has been maintained for the RFFF. RFS maintains that the financial burden on councils was addressed by this initiative and so councils should be in a better position to meet their obligations.

In addition, RFS states that some program costs such as workers’ compensation are not known with certainty until after 30 June each year making forecasting difficult.

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<sup>33</sup> The RFS Advisory Council is established by Part 6 of the RF Act. Its function is to advise the Minister and Commissioner on matters relating to the administration of the Act, and to the Commissioner on matters specific to the RFS such as training, service standards and public education.

Nevertheless, a more sophisticated approach to RFFF budgeting based on rolling budget schedules might assist to address councils' concerns on this issue. Such an approach would complement RFS efforts to encourage councils to develop long-term equipment replacement programs.

### **RFFF Administrative Procedures**

#### **Current RFFF Administrative Procedures are Duplicated**

Current RFFF administrative procedures within RFS are duplicated, with both the head office and regional offices undertaking checking and record keeping procedures. Streamlining of procedures while maintaining adequate controls and accountability would bring efficiencies.

For example, currently councils may bid for the actual amount of outgoings they incur in maintaining tankers. Regional offices are expected to check these claims for reasonableness, but to undertake this activity diligently would take considerable time and effort. The process could be simplified by funding on the basis of an agreed formula (mentioned previously).

Similarly, record keeping should be consolidated in one area. The roles and responsibilities of RFS head office and regional offices in the administration of the RFFF needs to be reviewed.

## **3.3 Linking Resourcing to Fire Risk**

The RFFF is not and was never intended to be the only source of resourcing for rural fire fighting in NSW. The RFFF was to supplement resources committed by local communities and fire fighting authorities. Local communities through their local council are expected to contribute resources commensurate with the risks being faced by those communities.<sup>34</sup>

#### **Agencies Developing Systems to Link Resourcing to Fire Risk**

The first steps in developing sophisticated models of resourcing in the State are currently occurring. Each of the rural fire fighting authorities are developing systems and methodologies to link resourcing to the risks of fire. These systems will assist in determining whether resources are adequate in particular areas and in determining the resource levels needed for the State as a whole.

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<sup>34</sup> For example, RFS guidelines state that if a council had committed \$12,000 as its (12.3 per cent) contribution to the RFFF, if the final allocation from that Fund actually required only \$9,000 from council, then the \$3,000 difference should still be spent by council on fire related activities.

Without such resourcing models, there is a risk under the current system of bidding for RFFF funding that resources are above optimal levels and/or are not allocated to the areas of greatest need.

### **Standards of Fire Cover (SOFC)**

RFS is attempting to assist councils to determine the optimal mix of fire fighting resources that they require through the development of a SOFC methodology. SOFC methodologies have been used for many years in other Australian States and overseas.

The objective of SOFC is determine what level (*standard*) of fire fighting resources is necessary to provide an acceptable degree of protection (*fire cover*) to a particular area given the fire threat to that area.<sup>35</sup>

SOFC assesses the risks in an area, the resources currently available, the fire history, terrain and land use of the area and attempts to allocate a risk factor to each of these components. A total risk for the area being considered is developed and the level of resources needed to meet that risk is then determined using set equipment standards.

#### **NSW has no Central Database of Fire Fighting Assets**

The records of resources available for fire fighting in NSW has generally been poor. There has not been (and currently is not) a central database of all State fire fighting resources; such records are kept locally. Information on the type of equipment available, its age and condition, and its actual availability for fire fighting has been patchy across the State.<sup>36</sup>

As a result of the lack of quality information, SOFC has been slow in being developed. Much of the data needed to determine risk and equipment level were not available readily and RFS has been collecting data.

The ongoing usefulness of SOFC depends heavily on the quality and currency of the information contained in its reports. The development of the SOFC methodology largely relies on the support of local government to undertake the necessary collection of data and review of results.

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<sup>35</sup> *Towards a Standards of Fire Cover for NSW*, Department of Bush Fire Services December 1993 p2.

<sup>36</sup> Before the commencement of the RF Act collecting such information was not possible as there was no legislated capacity that allowed this to occur. The provisions of the RF Act and the creation of a single rural fire agency (the RFS) now make this type of information collection possible.



**Further  
Refinements of  
SOFC Necessary**

Further refinement of the SOFC methodology is necessary to address identified deficiencies. For example, the weighting given to the individual components of risk and threat have been set largely subjectively (although based on models developed manually by RFS from the data obtained). These should be refined as the quantity and quality of data improve.

**Using SOFC to Improve Resource Planning****SOFC Proposals  
are not  
Mandatory**

SOFC resourcing recommendations are not mandatory; RFS can only suggest the optimal levels of equipment for individual brigades. Although RFS relies on its regional offices to monitor bids from councils in line with SOFC recommendations, there is no automatic linkage of SOFC to the bidding process. It is up to local councils to put in their bids for equipment.

RFS hopes that councils will use SOFC to assist them in the annual bidding process. However, the SOFC methodology is not fully understood by all relevant stakeholders.<sup>37</sup> This causes some resistance to using SOFC recommendations in determining resourcing levels because of perceived deficiencies. Further effort is required by RFS to advise local councils on the objectives of, and the rationale behind, the SOFC methodology.

Notwithstanding this concern, some councils have begun to develop long-term replacement programs for their major equipment, using in part the material gained through the SOFC project to determine their needs.

**Advantages in  
Equipment  
Replacement  
Programs**

There are several advantages to be gained by encouraging such an approach. The potential for savings in maintenance costs by replacing inefficient equipment has already been mentioned. Long-term planning will provide certainty for councils in preparing their annual budgets; equipment can be purchased in a methodical manner as the council can afford. Positive effects on brigade morale result from having adequate equipment.

Long-term equipment replacement planning may assist in ensuring that appropriate equipment is purchased and avoid the example shown in Case Study 4. Encouraging the development of long-term equipment replacement programs for all rural fire districts should be made a high priority by the RFS.

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<sup>37</sup> For example, an issue raised in country areas is the lack of value placed on livestock when determining the asset values to be protected. Country fire fighters believe the risks calculated for rural areas may be understated. Although SOFC does include livestock in its threat analysis, they are not given significant weighting because of the variability of livestock numbers across time.

#### **Case Study 4: Appropriateness of Fire Equipment**

The SOFC project has highlighted many instances where brigades misdirected resources into inappropriate equipment.

For example, RFS inspections have identified many brigades that are over resourced with equipment used to mop-up fires when those fires are under control. Mop-up equipment includes such items as portable pumps, tanks and tanker trailers.

The usefulness of mop-up type equipment is limited. Tanker trailers and tanks carry a relatively small amount of water and must be carried or towed by a vehicle. This limits their operational capabilities.

Portable pumps usually are not used in actual fire fighting operations as modern fire tankers carry high capacity pumps. They are needed to fill fire tankers in situations where the tanker cannot gain close enough access to a water supply to use its on-board pump. In such circumstances fire fighters place a portable pump on the bank of a dam or creek and pump water up to the tankers as these arrive for replenishment.

Fire tankers in most cases can access a source of water without the need for portable pumps. Therefore, brigades normally require only a small number of portable pumps. Nevertheless, in one local government area RFS identified that RFFF funding had been used to purchase over 300 portable pumps; a ratio of 1 pump to every 1.8 volunteers.

Brigades with a high propensity of mop-up equipment usually lack community type equipment such as tankers. In one instance RFS estimated that brigades could have bought two large tankers (that would provide far greater protection to their communities) for the same cost as was expended on mop-up type equipment

#### **Opportunities for increased resource coordination**

Historically brigades were formed by local communities to fight fires in their areas. When transport and communications were difficult, a quick response to fire events dictated there be many brigades disbursed around the State. With improved communications, sealed roads and better equipped and more reliable appliances, the need for separate brigade stations in many areas has reduced.

**Rationalisation  
is Possible**

RFS through the SOFC project has identified opportunities for rationalisation and improved efficiency. Some fire brigades are amalgamating in response to these pressures. However, the RFS can only recommend and cannot force amalgamations of brigades.

There are many small councils each of which employs fire control centres, mobile communications, FCOs and other fire support staff. The costs involved in some of these items may be significant (a fire control centre can cost up to \$300,000). There are opportunities for considerable savings from increased sharing by local councils of major purchases.<sup>38</sup>

### **3.4 Resourcing by Other NSW Agencies**

The other major rural fire fighting authorities, the NPWS and State Forests, each fund their fire fighting operations differently.

NPWS funds equipment and personnel through its capital and recurrent budgets.

State Forests allocates its funding for fire fighting activities on the basis of operating budgets for individual divisions. There is a danger that managers may cut expenditure on fire fighting preparedness to improve short-run operational results. State Forests has recognised this risk and is developing systems to identify risks accurately and to enable managers better to determine the level of resourcing that needs to be committed to fire suppression and prevention activities.

NPWS through its development of reserve management plans also is implementing strategies for linking resource levels to fire risk.

There are inefficiencies in each agency developing its own resourcing methodology based on fire risk and behaviour information. It would be preferable for a single methodology to be agreed and used by all rural fire fighting authorities. The BFCC is the appropriate forum to undertake such a project.

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<sup>38</sup> Sharing of resources amongst councils is occurring in NSW. There are several examples where councils have combined to share the cost of a FCO. Similarly, some councils have agreed to share resources and run combined brigades, fire control centres and training facilities. Such arrangements rely on harmonious relationships continuing amongst the councils involved.

The problem of resourcing is not limited to NPWS and State Forests but is faced by many agencies. Several have reduced their fire fighting capacity, relying instead on local resources or contracting other agencies to manage their lands.

### **Agency Sharing of Resources**

At present there is duplication of resources in many areas of the State and existing facilities could be better utilised by improving arrangements for resource sharing. For example, because of historical decisions RFS and NSW Fire Brigades stations may be located in proximity and may have duplicated resources. As mentioned in chapter 2, the RFS and NSW Fire Brigades have developed methodologies to address this issue and boundary redistributions are progressing.<sup>39</sup>

#### **Shared Facilities exist in some Areas**

The headquarters of other emergency response agencies such as the SES and Ambulance also may be better utilised amongst agencies.<sup>40</sup>

One difficulty in developing more shared facilities is the current budgetary process, which allows agencies to determine their requirements in isolation from what other agencies are doing.

#### **Timing Difficulties in Sharing Facilities**

Although it is difficult to marry differing requirements of different agencies to the same timeframes, there are savings to be gained from agencies' working closely with each other to maximise efficient use of resources.

To enable agencies to identify opportunities for sharing resources, good communications and procedures for exchanging strategic planning information amongst emergency response agencies need to be developed.

Existing cooperative arrangements such as the BFCC and local and State emergency management committees have a role to play in fostering greater regional cooperation on resourcing issues. However, a clear Government policy on agencies sharing resources would further facilitate the process.

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<sup>39</sup> In the case of NPWS and State Forests there is less duplication of resources with other agencies. These agencies generally follow a different strategy from that of the RFS or NSW Fire Brigades in that their fire fighting is based on lightly equipped and very mobile teams operating in often remote areas. Both NPWS and State Forests have equipment (and staff) that is multi-functional and when not in use for fire fighting is used for other purposes.

<sup>40</sup> An example of shared use of resources is the Blue Mountains Emergency Control Centre currently providing facilities for the RFS and SES. The NSW Fire Brigades has also decided to use the same facility in future for its local communication centre.

Case Study 5 presents an example of the sharing of emergency response facilities in the ACT where establishment of joint emergency response facilities is Government policy.

<b>Case Study 5: Joint Emergency Services Facilities ACT</b>
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<p>The opportunity to share resources amongst agencies has been identified by the ACT Emergency Services Bureau.</p>
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<p>When considering the emergency response requirements of the newly establish township of Gungahlin the opportunity was taken to build a shared facility with ACT Ambulance, Fire Brigade, Bush Fire Brigade, Emergency Services and the Australian Federal Police being located in the same building.</p>
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<p>Each agency maintains a separate operational area; in the case of the police this area being secure from the other four services although still being located in the same building. Shared facilities include kitchens, a recreation area, conference/training rooms and garaging facilities.</p>
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<p>The Gungahlin facility was established in a new area that had previously had no emergency service presence and provides a good example of what is possible in the way of agencies sharing facilities.</p>
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<p>The ACT Emergency Services Bureau is looking for further opportunities in other areas to co-locate emergency response agencies.</p>
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### 3.5 Recommendations

It is recommended that

8. The RFS review the administrative procedures applying to the RFFF to:
  - clarify RFFF expenditure guidelines
  - better define the roles and responsibilities of RFS regional and head offices to remove existing duplication of activities
  - identify methods to simplify budget allocation procedures, for example through the use of a standard maintenance costing methods for light, medium and heavy tankers.
  - improve local level record keeping and inventory controls for firefighting equipment.
9. The RFS:
  - undertake education activities for councils, FCOs and brigades on the objectives of, and the rationale behind, the SOFC methodologies to address current misinformation
  - encourage local government participation in developing the Standards of Fire Cover methodology with the aim of eventually linking resource allocation to SOFC analyses
  - encourage local government in all rural fire districts to develop long-term equipment replacement plans.
10. The Government, rural fire fighting authorities and local government develop cooperative arrangements to identify and facilitate the sharing of resources. The long-term objective of the process should be to rationalise resources in regions according to risk.

## **4    Prevention Activities**

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## 4.1 Prevention Activities

In recent years the emphasis in fire management has moved from suppression (once an incident begins) to preventing incidents starting in the first place.

Prevention includes activities concerned with reducing the risk of fire (such as reducing fuel levels on undeveloped land and creating fire breaks to protect assets) and raising the awareness of the public (through community involvement and education).

## 4.2 Hazard Reduction

### **The Objectives of Hazard Reduction**

Hazard reduction is a strategy aimed at reducing the risk of a bush fire starting, or decreasing the likely severity of a fire should it occur. Hazard reduction can be a simple but very effective strategy that can be implemented by all levels of the community.

The objective of most hazard reduction activities is to reduce fuel levels. Fuel levels can be significant depending on the type of vegetation. For example, 20-30 tonnes per hectare is a common fuel level in forest areas; the suggested maximum fuel level after a successful hazard reduction is generally about 8 tonnes or less per hectare.

Reducing fuel levels has the effect of decreasing the severity of any fire that may occur and slowing the progress of the fire. Both of these outcomes increase the ability of fire fighters to extinguish a fire.

To be effective, hazard reduction activities have to be correctly targeted and related to the areas under consideration. The benefits of hazard reduction are generally short term; the fuel loads in forests may return to high levels in as little as 2-3 years after a fuel reduction burn. Therefore continuous monitoring and actioning of land in a bush fire environment is necessary.

### **Methods of Hazard Reduction**

Rural fire hazard reduction has traditionally taken the form of periodic controlled burning of bush and scrub. Other fuel reducing activities are slashing (cutting) along the perimeters of built-up areas, roads and railways, clearing fire breaks around assets (such as houses) and, in some areas, grazing.



Maintenance of an adequate network of fire trails is also an important hazard reduction strategy. A well maintained series of fire trails enables fire fighters to have rapid access to remote areas to fight fires and also assists in enabling hazard reduction burning.

### **Legislative Requirements to Reduce Fire Hazards**

Under the previous Bush Fires Act and the current RF Act there has been an obligation placed on land owners to undertake adequate actions to reduce the risks of bush fires starting on their lands.

Each land manager has responsibility for undertaking hazard reduction activities; this requirement extends to all NSW Government agencies and also to local government, as well as private landowners.

### **Hazard Reduction Planning and Implementation**

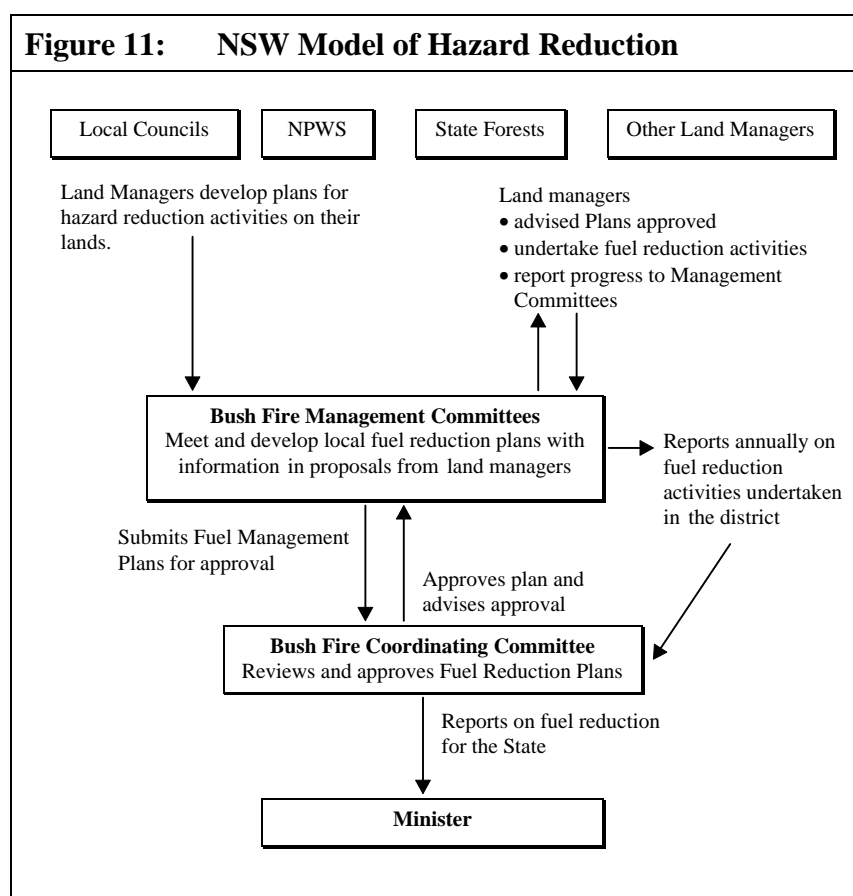
Cooperative arrangements exist in NSW for undertaking hazard reduction activities. Hazard reduction activities are undertaken at a local level by the respective land managers and are coordinated locally through the bush fire management committees.

#### **Land Managers have Overall Responsibility for Hazard Reduction**

Land managers have the overall responsibility for undertaking hazard reduction activities. However, implementation of this responsibility varies amongst land managers. Agencies whose primary function is land management tend to have a high level of commitment to fire prevention activities. For example, State Forests consistently plan and undertake large amounts of hazard reduction activity in each of the rural fire districts that it has a presence. Agencies with core functions other than land management tend to place less emphasis (and effort) into hazard reduction measures.

Bush fire management committees will attempt to resolve any disputes that arise over the adequacy of an agency's proposal locally. If this cannot be achieved the matter may be referred to the BFCC and/or the RFS for resolution.

The hazard reduction process as it existed at the commencement of the RF Act is shown in Figure 11.



The efforts of the RFS and the BFCC over several years resulted in fuel management plans being developed and approved for nearly all rural fire districts.

### Many Fuel Management Plans Expired

However, adequate transitional arrangements were not implemented before the previous BFCC ceased to exist. When the BFCC again met, only 55 out of the 124 fuel management plans that had been approved previously were still current. This is shown in Table 2.

A major finding to come out of the Coronial Inquiry into the 1994 bush fires was that hazard reduction activities had not been adequate in many fire prone areas. The Deputy State Coroner found that:

The evidence satisfied the Court conclusively, that throughout NSW during the period 1989-1993, the fuel was not managed as intended by Parliament and high fuel loads were principally responsible for the intensity of the uncontrollable fires.<sup>41</sup>

<sup>41</sup> New South Wales Bushfire Inquiry, Findings - Volume 4 State Coroner p 362.

<b>Table 2: Fuel Management Plans Status at 10 March 1998</b>					
RFS Region	No. of BFMCS	BFMCs without plans	Plans expired prior to 1 September 1997		Plans expired after 1 September 1997
			Interim Approval	Full Approval	
Albury	20	2	10	0	1
Castlereagh	15	0	9	2	0
Central	18	0	1	0	10
Central East	19	0	9	0	1
Hunter	14	0	8	0	0
Northern	19	1	0	2	9
Southern	12	0	4	0	0
Western	14	4	2	0	0
<b>Total</b>	<b>131</b>	<b>7</b>	<b>43</b>	<b>4</b>	<b>21</b>

Source: RFS. BFMC - bush fire management committee

Table 2 shows the position on the currency of fuel management plans across RFS regions. It can be seen from this table that 47 plans expired before the RF Act commenced.

The reconstituted BFCC has allowed bush fire management committees twelve months to develop new plans to manage hazard reduction activities. In the meantime, existing fuel management plans were extended, but with ecologically sustainable development principles taken into consideration.<sup>42</sup>

### Conflict between Different Legislation

Conflict between different legislation exists and many bush fire management committees are finding it difficult to meet fully the expectations of all stakeholders and the requirements of several Acts. For example, local committees advise of an inability to resolve conflicting priorities between threatened species, clean air and environmental protection legislation.

### Conflicting Priorities in Legislation cause Difficulties

In one rural fire district the bush fire management committee has been unable to undertake any hazard reduction activities for three years because of the requirements of the Protected Lands Act. The difficulty arises because of inadequate information about species or the effects of fire prevention activities on the local environment. As a result, FCOs, brigades and bush fire management committees are uncertain whether they have adequately assessed the likely impact of actions on the environment.

<sup>42</sup> Amendments to the RF Act passed by Parliament in May 1998 confirmed the twelve month period allowed to develop risk management plans.

The issue which must be resolved is what level of protection a community is willing to accept and the level of sacrifice of competing wants which must occur. For example, with the growth of urban areas into bushland settings it is not possible to protect all houses from loss while keeping all surrounding bushland in its original condition.

**More Guidance  
is required on  
Legislation  
Affecting Rural  
Fire Fighting**

The emphasis on community consultation required by the RF Act may assist the process of resolving conflicting priorities. Nevertheless, there needs to be more guidance available to local committees and brigades on aspects of legislation that affect rural fire fighting. There also needs to be more training at the brigade level on ecological and environmental issues and how these affect bush fire prevention activities.

**Local Government Responsibilities for Fire Mitigation**

S66 of the RF Act gives local government the powers to request property owners (other than a public authority) to carry out bush fire hazard reduction work on their land. The Act specifies the procedures that local government must undertake in requesting property owners to undertake such activity, objection and appeal mechanisms available to property owners and remedies available in default of compliance. The RF Act tightened procedures for such mitigation activities in response to deficiencies identified by the Deputy State Coroner in the permit system that existed before 1994.

Councils have been active in implementing the requirements of the new legislation. Many councils have appointed a fire mitigation officer with responsibilities for identifying, assessing and issuing notices on fire mitigation issues.

However, only one fire mitigation officer is usually appointed for each council and the officer may have responsibilities for reviewing large geographical areas. This may place a demanding workload on the fire mitigation officer and lead to gaps in identifying areas of concern.

**Time to  
Undertake Fire  
Mitigation  
Activities**

Most councils appear to be allowing property owners ample opportunities to undertake fire mitigation activities. Councils are mindful of the costs involved in prosecuting owners for non-compliance and the costs involved in responding to owners' objections and appeals through the courts. Councils are tending to issue warning letters and information packages in preference to beginning the formal notice process.

Councils have an obligation under the RF Act to report annually on the permit system within their local government area. The first report under this requirement is due for the year ending 30 June 1998. Monitoring of council reports by the RFS may identify whether measures adopted by individual councils are effective.

### **Monitoring and Reporting Hazard Reduction Activities**

Implementation of fuel management plans is monitored annually but the effectiveness of the process could be improved.

#### **Local Reporting of Hazard Reduction Activities could be Improved**

Assessing the rural fire threat for the State as a whole is the responsibility of the BFCC. However, its analysis of prevention activities is hampered by the quality of the data available from local committees. Reporting of hazard reduction activities has been poor from many bush fire management committees.

Little comparison of hazard reduction achievements against targets has been possible because targets have not been set or have not been notified to bush fire management committees before commencement of hazard reduction work. Results of hazard reduction activities also have not been reported back by all agencies to their local committee. This is especially the case for agencies whose core business is not land management. Reporting on hazard reduction activities from the major land managers such as NPWS and State Forests generally has been good.

The RFS and the BFCC have identified that the previous reporting arrangements were inefficient, time consuming and were resented in many areas. Amended reporting procedures were issued by the RFC in February 1998.

Simplified procedures may improve hazard reduction reporting. Nevertheless, the onus of ensuring all major land managers report hazard reduction targets and results remains with bush fire management committees. The RFS and the BFCC need to be active in their monitoring of hazard reduction reporting from local committees. Identification of bush fire management committees and agencies to the relevant Minister or in the RFS Annual Report should be considered where continued poor reporting occurs.

**Analysis of Fire Prevention could be Improved**

The current hazard reduction review process does not consider effectiveness and efficiency of prevention strategies in other than limited terms. There is little in the way of formal post wildfire analysis into whether hazard reduction strategies assisted in fire fighting operations.<sup>43</sup>

FCOs advised that attempts are being made to improve the effectiveness of hazard reduction burning but this is hampered by a lack of data and analysis. The work that has been done in this regard supports the benefit of hazard reduction activities.

It would be useful for the effectiveness of hazard reduction work undertaken in an area of wildfire to be part of the post fire debrief and management analysis activities. Information provided by such analysis could be used to for improved targeting of future hazard reduction activities. Such analyses could also provide quantified information to address community concerns over the environmental aspects of hazard reduction activities.

### **4.3 Community Education and Involvement**

**Need for Communities to be Involved in their own Protection**

Fire authorities around the world acknowledge the need for communities to be involved in their own protection. This recognition has lead to the development of strategies to increase the awareness of fire prevention activities and increase the involvement of the community in fire prevention.

Programs such as the community fire unit program undertaken by the NSW Fire Brigades have been established to handle fire incidents until a fire brigade unit arrives. Other programs aim at increasing the communities' awareness about fire.

A joint committee has been established between RFS and the NSW Fire Brigades. These agencies are developing joint programs such as juvenile projects to prevent arson. Both agencies are involved in wider community programs such as Fire Awareness Week.

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<sup>43</sup> There is a requirement that each hazard reduction activity be assessed on completion. However, this examines whether the activity reduced fuel loads, the area was treated successfully and the general management of the hazard reduction activity.

**Local Education Initiatives** Community information resources are also being developed at the local level in some areas. For example, a local *Living Near Bush Land* brochure has been developed jointly by RFS and one of the NPWS district offices. This brochure, along with general information, provides contact details for all RFS control centres in the district covered.

The impact of public education campaigns on urban fire management was reviewed as part of a previous performance audit by The Audit Office. The report on that audit, *Fire Prevention*, was tabled in the NSW Parliament in December 1996.

### **Community Fireguard**

The main vehicle for public education in rural fire districts is the Community Fireguard program.<sup>44</sup>

Community Fireguard has just started in many areas and so far only a small number of groups have been developed.

**Difficulties Experienced in Generating Interest in Programs** Difficulties are being experienced in some areas in generating volunteer and public interest in community education programs. Even in high risk areas some brigades are finding it difficult to raise public awareness of the dangers of bush fires and the level of preparedness of the local community.

The implementation of the program also relies heavily on the commitment and availability of local volunteers to undertake activities. This may cause difficulties in undertaking some activities such as school visits because of other commitments.

**Owners are not Preparing Sufficiently their Properties against Fire** Some of the difficulties arise because property owners believe that fire fighting authorities will be able to respond adequately to all emergency incidents and so do not sufficiently prepare their properties against fire. As has been shown during major fire incidents in recent years, response agencies may be severely stretched in defending communities and may be unable to provide a response to protect individual properties.

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<sup>44</sup> Community Fireguard is an umbrella project for several interrelated segments that aims to address bushfire safety and house safety and was modified for NSW conditions from a Victorian program of the same name. The objective is to target particular community groups for education, for example people living in cul-de-sacs and high risk areas. Also the program target other community programs such as Neighbourhood Watch and Landcare to disseminate fire information.

The issues of the level of community involvement in their own protection and developing adequate strategies to heighten public awareness of the dangers of bushfires require further consideration by the Government and fire fighting agencies.

## **4.4 Recommendations**

It is recommended that:

11. As a matter of priority guidelines be developed to assist fire management committees comply with differing legislative requirements
12. Hazard reduction reporting requirements be further developed to include analysis after wildfires occur of the effectiveness of any hazard reduction activities.
13. The RFS and BFCC review the adequacy of existing strategies to promote community involvement.



## **5 Fire Fighters' Competencies and Training**

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## 5.1 Competencies and Training

A basic tenet of fire fighting is that persons undertaking fire fighting activities should have the competency to undertake such activities safely and effectively.

Competency may come from experience or through training. Training is often the most economical and efficient method of developing such competency because it allows the experience of many to be passed on to others in a safe and effective way.

## 5.2 Delivery of Training

There is no centralised fire fighting facility in NSW for training NSW rural fire fighters and the delivery of training is a function undertaken by each rural fire fighting authority. Thus the RFS, State Forests and NPWS each provide training for their staff or volunteers engaged in fire fighting activities. The NSW Fire Brigades also maintains separate training facilities in various parts of the State, as well as its major central training facility at Alexandria.

### Training for RFS Brigades

The RFS developed its first training plan in 1991. One of the objectives of the training plan was to create a capacity based mainly on volunteer trainers and assessors. The strategy acknowledged the difficulties of establishing a centrally delivered training regime for a large and widely dispersed organisation. The strategy opted for a small central training unit to develop course material that is then delivered by local brigades using local resources.

RFS has achieved commendable results in establishing its training capacity over the ensuing years. However, gaps that need to be addressed do exist.

### Training is a Council Role

Delivery of training to individual brigade members is the obligation of local councils.

The day to day responsibility for identifying training needs and implementing training courses usually rests with the FCO of each council. Because of the increasing demands being placed on FCOs, and the increasing awareness of the benefits of adequate training, many rural fire districts have training officers to undertake these responsibilities. Although some councils have appointed full-time (paid) training officers, most training officers are part-time and volunteers.

### **Other Agencies Training Structures**

The responsibility for identifying training needs and delivery of fire fighting courses within the NPWS and State Forests is with divisional or regional managers. Both agencies rely heavily (as does the RFS) on experienced staff to deliver training to new or inexperienced staff.

NPWS and State Forests have central policy units with responsibility for coordinating the development of training methodologies within those agencies. Such units are small and both agencies use operational staff to assist in the development of training material and to deliver that material to staff.

### **Opportunities for Joint Delivery of Training**

#### **Demands and Timing affect Opportunities for Joint Training**

Although NSW fire fighting authorities are working more closely in the area of training, differing demands and timing of delivery for courses across the State affect their ability to run joint training. Notwithstanding this, agencies do participate in joint basic training when opportunities arise.

Basic fire fighting training is usually devolved to the lower operational levels such as RFS brigades, NPWS districts and sub-districts and State Forests regions. Because of the demand for basic fire fighter training within all agencies there are usually less opportunities for joint training; places in basic courses are usually taken by the members of that agency. Timing also is an issue and agencies tend to run basic courses as and when their own demands require.

#### **Specialist Training offers Opportunities for Joint Courses**

Specialist and advanced training offers more opportunities for joint participation at courses. Specialist and advanced courses are generally delivered by higher operational levels, for example at regional or State level in the case of the RFS. NSW fire fighting authorities usually offer places in their specialised courses to other agency members or run joint courses with other agencies.

Specialised training also allows agencies with particular expertise to develop and run training courses on specific subjects. For example, NPWS because of its operational requirements, has built expertise in airborne fire fighting methodologies and has run training courses on this aspect of fire fighting.

**Joint use of  
Training  
Facilities**

Some agencies and councils have developed training centres that can be made available to other agencies. For example, two councils which built smoke buildings to train officers in structural fire fighting and in the use of portable breathing apparatus permit their use by other agencies in the area.

There are also opportunities for agencies to undertake joint exercises and other operational activities such as hazard reduction work. Such activity encourages cooperation at the local level. It also assists rural fire fighters to become accustomed to working with members of different agencies.

As mentioned in Chapter 2, there is a need for additional training and experience in the operation of the ICS methodology. Joint exercises present an ideal opportunity for agencies to raise their staff and members awareness of the requirements of ICS.

### **5.3 Development of Training Material**

Training programs for bush fire firefighting are well developed and are being constantly improved by NSW and national fire fighting authorities. The development of national competency standards has greatly assisted this process.

#### **Use of National Competencies by NSW Agencies**

**High  
Commonality to  
National  
Standards**

All the rural fire fighting authorities advised that their training programs are being developed according to national modules. Commonality between NSW agency-developed modules and the national standards is high and increasing as existing courses are revised. This ensures a consistent approach to training amongst all NSW rural fire authorities and to interstate fire authorities.

Although training available to NSW rural fire fighters is aligned with the national modules, courses are not as broad in scope as that required for certificates or diplomas. NSW agencies only use the modules applicable to their agency.<sup>45</sup>

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<sup>45</sup> For example, the RFS has developed recommended training for the basic firefighter level; this corresponds to five of the 24 national modules at Certificate II level. Volunteers have the choice of undertaking either the RFS courses or national modules; either option will gain basic competency.

### **Developing Training Courses from National Modules**

National standards set the broad competencies that are required for certification but generally do not provide actual training material. Training packages are usually developed by head office or regional staff in the respective agencies, to “customise” the requirements of the national competency modules to NSW and agency-specific training requirements.

Because of the commonality encouraged by a system of national fire fighting competencies there are considerable opportunities for agency cooperation in the development and presentation of training packages.

#### **Training Material shared by Agencies**

NSW fire fighting authorities are making use of training material developed by other agencies. For example, State Forests is in the process of having its recently developed training package on prescribed burning (hazard reduction work) adopted by other agencies.

Further opportunities exist for agencies to share the responsibilities of developing common training material. Such an approach better uses the resources of the State and avoids duplication of effort.

To facilitate more jointly developed training material in NSW, the Joint Fire Services Training Sub-Committee has been established. The BFCC may also have a role in encouraging the shared development of training material.

## **5.4 Competency Levels of Rural Fire Fighters**

The competency levels currently held by rural fire fighters varies amongst fire fighting authorities and across geographical areas. Many of the differences in competency levels result from the voluntary nature of the majority of NSW rural fire fighters and the challenges that arise from such a model.

#### **No Centralised Record of Fire Fighters' Competencies**

There is no centralised register of fire fighters' competencies in NSW. Training registers that exist are kept by individual agencies and tend to be at a lower operational level rather than being kept centrally for the whole agency. This is consistent with the general approach of NSW rural fire fighting of devolving operational responsibilities to local areas.

Information on the competency levels of local (RFS) brigades is kept by FCOs or local trainers. Annual returns of training undertaken in each area are sent to RFS head office which are compiled into the *RFS Training Register*.<sup>46</sup> NPWS and State Forests divisions or regions keep records of the competency of their respective staff.

### **NPWS and State Forests Competency Requirements**

NPWS and State Forests staff generally have a high degree of competency in fire fighting. Both these agencies have a significant number of their staff trained in fire fighting activities.

#### **Fire Competencies Linked to Specific Job Requirements**

This arises in part from the nature of the activities of these agencies as land managers and the requirements imposed on the staff of these agencies. Fire competencies in these agencies are often linked to specific job requirements with many positions such as field workers, rangers, maintenance staff and some support staff having compulsory training to basic fire fighter standard as a condition of employment.

Training to more advanced levels is usually determined by an individual's aptitude and interests; those with particular interests or skills will be encouraged to undertake more advanced training.

### **Competencies Levels of RFS Brigades**

#### **Training for Volunteers in RFS is not Compulsory**

Volunteer brigades differ from other fire fighting authorities in that at present the RFS has not made training compulsory for the majority of brigade members. The voluntary nature of the vast majority of the members of RFS brigades makes the question of compulsory training a difficult issue. Attitudes towards training vary across the State with many areas being unable to meet the high demand for training within their brigades.

Difficulties arise because younger members of brigades may be certified but lack practical experience on the fire ground. Although older brigade members may have practical experience they may not be certified in the latest fire fighting theories and methodologies. Older members also may not be conversant with the requirements of occupational health and safety or workers' compensation legislation as these apply to rural fire fighting.

#### **Competing**

Addressing this issue is not straightforward. The traditional

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<sup>46</sup> The *RFS Training Register* is a summary report of training information supplied by local councils. It records the numbers of fire fighters certified to a particular level of competency and the amount of training undertaken by the council. The *RFS Training Register* does not collect and maintain the competency records of individual fire fighters.

**Demands affect  
Volunteers'  
ability to attend  
Training**

means of providing training to volunteers, out of working hours or at the weekend, may not be possible on a regular basis for many volunteers because of competing family, employment or social priorities. There is a trend amongst RFS regions and brigades towards staging a raft of specialised training courses over a single week to overcome this difficulty. However, volunteers will still have to be able to attend such training opportunities.

Although the RF Act gave the RFS power to make training compulsory through service standards, the RFS has not taken this action at the present time except in some specific areas. For example, RFS has set standards of competency for FCOs so that all FCOs will have to meet the competency standards required of the position by 2004.

Similarly, preference is being given for incident controller positions to nominees that are already certified to the relevant standard.<sup>47</sup>

In the case of volunteers RFS has taken the strategy of promoting the benefits of training. The RFS has sought also to assure brigade members that training is not being forced on competent fire fighters. Rather the RFS wishes to build on the experience of brigade members by formally acknowledging their experience and competency through certification and by offering the opportunity of advancement within the brigades through gaining advanced or specialised training.

**Councils Setting  
Local Minimum  
Competency  
Requirements**

Notwithstanding that RFS has not made training compulsory for brigade members, RFS training standard operating procedures state that councils should specify the competencies needed for persons to hold particular positions or carry out particular functions in the organisation.<sup>48</sup>

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<sup>47</sup> In 1996 the RFS issued a circular stating that the BFCC had agreed that, as from 1 July 1999, nominees for the position of incident controllers under s41F of the Bush Fires Act (now s44 of the RF Act) would not be appointed by the Commissioner unless the nominees are certified competent.

<sup>48</sup> *Standard Operating Procedures (Training)* -1997, Department of Bush Fire Services, p 9.

As a result many councils have set minimum training requirements for members of brigades within their own local government areas.<sup>49</sup>

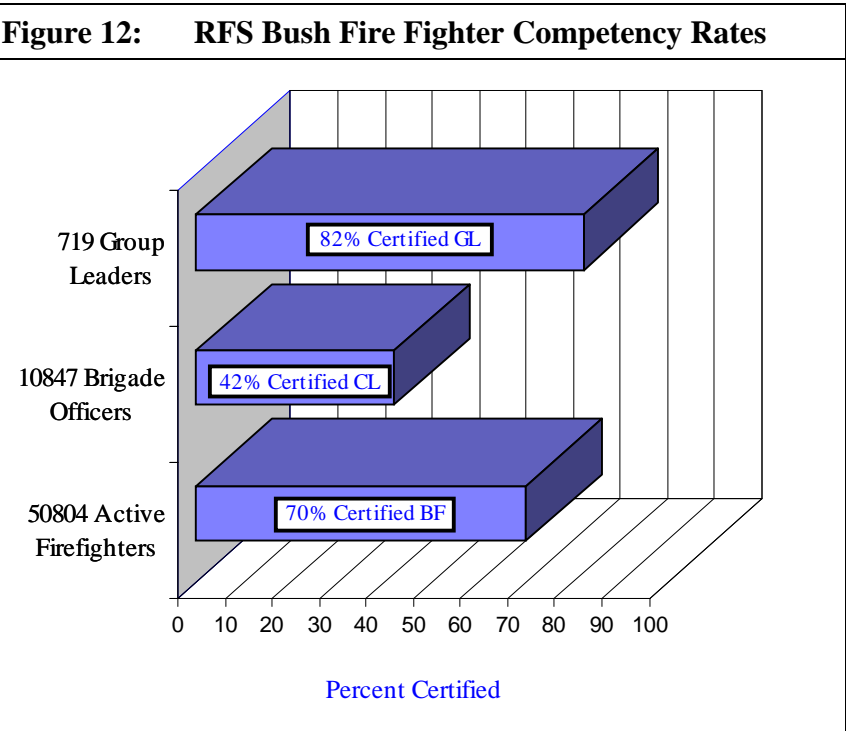
**Local Standards assist in Meeting OH&S Obligations**

Local standards ensure that all members at an incident are skilled at working in an inherently dangerous environment and will not jeopardise the safety of themselves or their colleagues. They also assist councils and the RFS in meeting their obligations under occupational health and safety and workers’ compensation legislation.

However, standards set by councils remain local standards and do not apply across the whole of the RFS. Local standards are enforceable only in the local area and only so long as council wishes to enforce those standards.

**Competency of Rural Fire Fighters Increasing**

Notwithstanding the previous comments, the RFS and councils have had much success with their strategies to raise the general competency rate of rural fire fighters. Figure 12 shows the competency rates for some of the brigade positions at 1 January 1998.



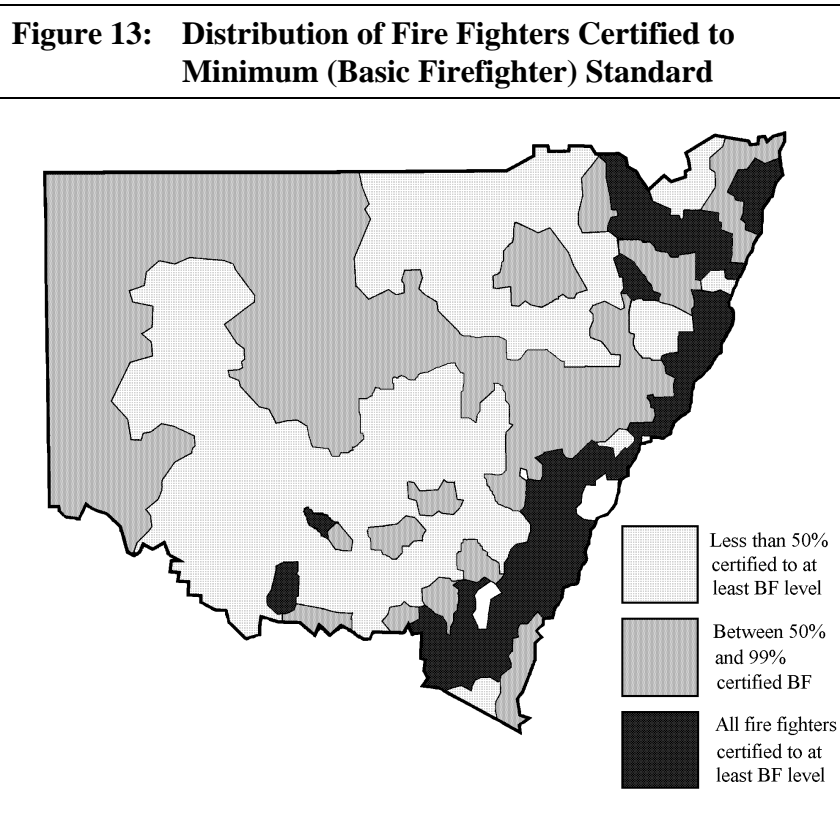
Source: RFS. Abbreviations: GL-Group Leader; CL-Crew Leader; BF-Basic Firefighter. “Brigade officers” are captains and deputy captains.

<sup>49</sup> For example, a common requirement by many councils is that brigade members have training at least to the basic firefighter standard before they undertake active duties on a fire ground. Another requirement implemented by some councils is that office holders within brigades (such as captains and deputy captains) are to be suitably qualified.



Although the overall results for the State as shown in Figure 12 are commendable, it would be reasonable to expect that all brigade members would be certified competent to their respective levels of duties. Because training has not been mandatory in all local government areas of the State the distribution of certified rural fire fighters across NSW is very uneven.

Figure 13 shows the distribution across the State of active fire fighters accredited to at least the minimum standard of basic fire fighter.



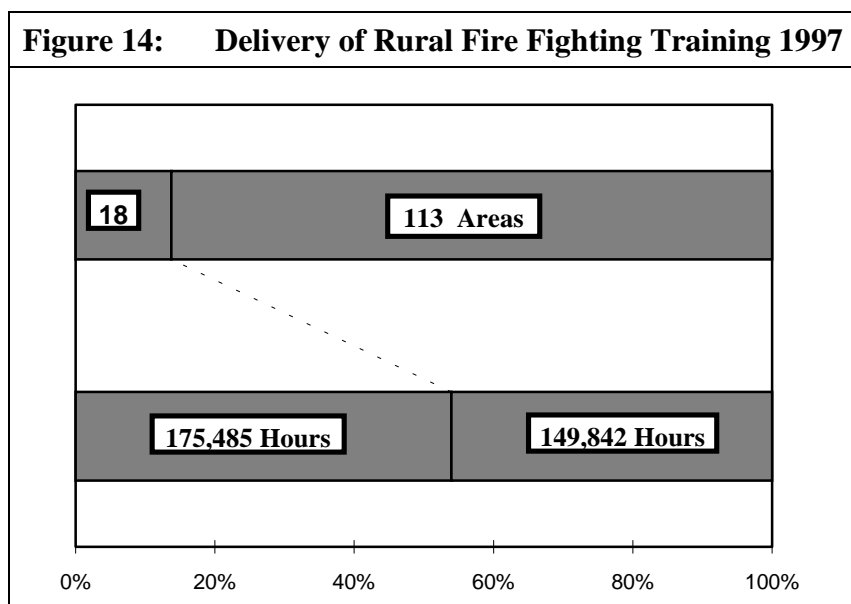
Source: Prepared by TAO from the RFS 1998 Training Register.

Other training gaps in rural fire brigades have been identified by the RFS. These include :

- 9432 village fire fighters needed, 3048 fire fighters certified to village fire fighter level (32%)
- 6662 drivers needed; 2734 bush fire driver/four wheel drive certified (41%)
- 3666 chain saw operators needed; 2370 chain saw operator certified (65%)

- 2302 compressed air breathing apparatus operators needed;  
1005 breathing apparatus certified (44%).

Because the delivery of training courses is a local government responsibility efforts to address the deficiencies noted is uneven and not necessarily occurring in the areas of greatest need. This is shown in Figure 14.



Source: Prepared by TAO from the RFS 1998 Training Register.

For 1997 a total of 325,327 hours of training for rural fire brigades was reported to have occurred. However, 18 councils (14 per cent of the councils that reported) provided 175,485 hours or 54 per cent of the total training reported.

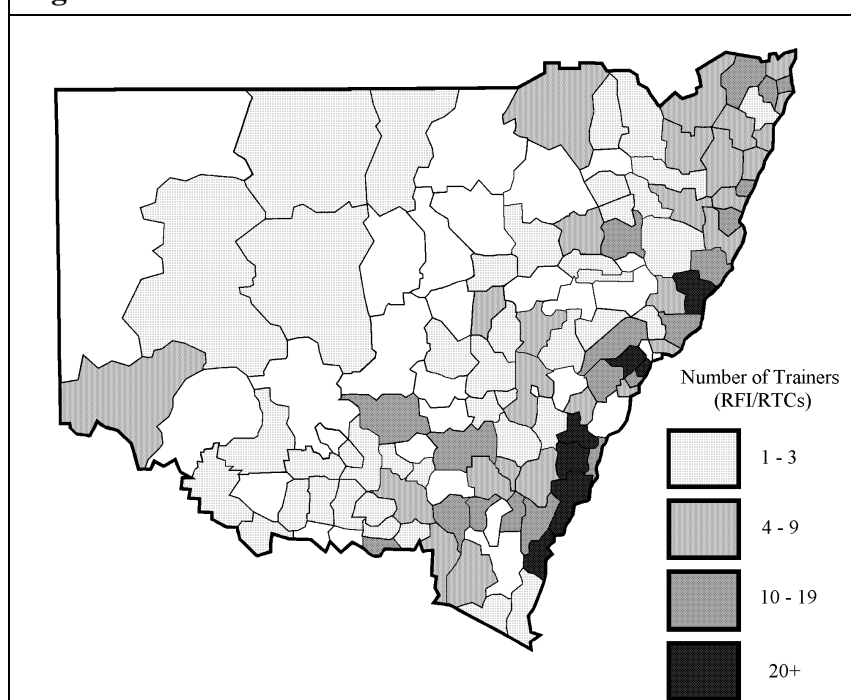
### Training Infrastructure

#### Lack of Trainers and Assessors

As the current training strategy is to deliver training locally wherever possible, any lack of local trainers and assessors affects the implementation of this strategy. The difficulty is that the majority of trainers and assessors are volunteers.

#### Distribution of Trainers and Assessors Uneven

Although RFS has been active in encouraging training for instructors and assessors (and the numbers of these have increased significantly over the past few years) their distribution across the State is uneven. Figure 15 shows the location of instructor numbers across the State.

**Figure 15: Location of Certified Trainers**

Source: Prepared by TAO from RFS 1998 Training Register. RFI - Rural Fire Instructor; RTC - RFS Training Coordinator.

RFS estimates that 800 instructors and 300 assessors are needed in NSW. At present there are 545 Rural Fire Instructors and 323 RFS Training Coordinators certified and about 154 certified assessors. RFS has not begun to target specific areas for developing instructors and assessors.

Greater priority needs to be placed on identifying the areas in most need of developing training infrastructure. The RFS then needs to particularly assist those areas identified to correct these deficiencies.

The RFS advised that training issues are being addressed through continuing involvement with local government and with volunteers. The legislation that allows the RFS to take a more proactive role is little over twelve months old and provisions are still filtering through. As a result, changes will take time to implement.

## 5.5 Recommendations

14. It is recommended that RFS, in consultation with local government, continue if not accelerate efforts to:
  - determine the training needs for all rural fire districts in the State
  - determine the level of training infrastructure required to address that need
  - develop and implement strategies to encourage more volunteers to become certified trainers and assessors.

## 6 Appendices

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## Appendix 1

### Response to the Report from the Rural Fire Service

*I refer to the Performance Audit Report recently prepared on the Coordination of Bushfire Fighting Activities.*

*Thank you for allowing me an opportunity to formally comment on the Report prior to its tabling in the Parliament.*

*At the outset let me congratulate the author of the Report Mr Stephan Delaney for what can only be described as a comprehensive review and analysis of bushfire management and coordination in this State. I also express my appreciation for the recognition in the Audit Opinion of the ongoing reforms made by the NSW Rural Fire Service and its predecessor the Department of Bush Fire Services in conjunction with local councils, other firefighting authorities and the volunteer firefighters.*

*By any measure the NSW RFS is a much more efficient and effective organisation today than it was 15 years ago. Strong government and community support for the NSW RFS, together with revitalised management and adherence to the reform process, has resulted in a better resourced, equipped and trained organisation. In most parts of the State, the NSW RFS of today bears little resemblance to the organisation of 15 years ago.*

*Greater emphasis has been placed on bush fire management planning at the local level, encouraging community participation in the preparation of those plans while at the same time embracing the principles of ecologically sustainable development. Furthermore, more attention has been given to improving co-operation between the various firefighting authorities over a range of operational and operational support areas.*

*The NSW RFS has proven its capacity to respond quickly and professionally to all fires in rural fire districts, including house and vehicle fires, and has achieved significant reductions in the impact of fire on lives, property and the environment. The wildfires experienced in the 1997/98 bush fire season were far more severe and protracted than the devastating bush fires of January 1994, yet damage in 1997/98 was only a fraction of that which occurred in 1994.*

*Just over 12 months ago the Rural Fires Act established the new*

*Rural Fire Service as an entity and provided a cohesive and integrated management structure for the delivery of fire services to rural fire districts throughout the State.*

*The new legislation has provided significant impetus for continuing reform within the NSWRFs which had been either inhibited or prevented by the limitations of the old Bush Fires Act. They include:*

- 1. establishing a clear command structure within the Service*
- 2. clarifying territorial and jurisdictional responsibilities of the Service*
- 3. extending the coordinated bushfire fighting management system to all the State*
- 4. the introduction of mandatory standard operating procedures for the administration, management and performance of the Service*
- 5. the improvement of reporting requirements both within and to the NSWRFs.*

*In this regard many of the issues raised in the Audit Report highlighting areas for improvement have already been identified by the NSWRFs, the Bush Fire Co-ordinating Committee and the Rural Fire Service Advisory Council.*

*While it will take some time to deal with these issues a reform process is in place to ensure they receive attention.*

*Having made these general remarks, I now offer the following comments on specific issues raised in the Report.*

## **RURAL FIRE OPERATIONS**

### **Agency Cooperation**

*While considerable progress has been made in establishing a framework for cooperation between rural firefighting authorities in recent years there is clearly scope for further improvement.*

*The strategies underpinning the cooperative framework include:*

- a Memorandum of Understanding between the NSW Fire*

*Brigade and the NSWRFs in 1996*

- *the progressive establishment of local mutual aid agreements at the interface of Fire District and Rural Fire District boundaries*
- *conducting joint training exercises for operational personnel*
- *sharing training facilities and resources*
- *the ongoing review of Fire District and Rural Fire District boundaries*
- *the preparation of operational plans by Bush Fire Management Committees.*

*Many of the foregoing activities are being pursued under the auspices of the Fire Services Joint Standing Committee which has recently been given statutory status.*

**Dual Accountability of FCOs**

*The Rural Fires Act clearly contemplates the accountability of Fire Control Officers (FCOs) to both:*

- *the Commissioner in respect of operational matters, and*
- *local government as employees of local Councils and in their day to day management of rural fire brigades.*

*Negotiations between the NSWRFs and local Councils to resolve any difficulties that arise over the daily management of the FCOs receive the highest priority. In this respect there exists a high degree of co-operation between the NSWRFs and many local Councils. However, there remains strong opposition by other local Councils to any form of NSWRFs intervention in rural fire management affairs, let alone the direction of FCOs.*

**Incident Control Systems (ICS)**

*The Bush Fire Coordinating Committee (BFCC) is aware of use of different operations management systems by rural firefighting agencies and intends to examine the issue of a common ICS for coordinated bushfire fighting. However, the BFCC remains of the view that it is the province of individual firefighting agencies to select an ICS structure suitable to its operational needs when acting outside the coordination system.*

**Communications**

*The NSWRFs has concerns about the way in which Incident Management Teams (IMTs) are structured in certain*



*circumstances and the implications for communications among IMT members and between the IMT and other operational personnel, for example fire sector commanders.*

*Earlier this year following certain operational difficulties in the management of a large bushfire in the west of the State, I directed the inclusion of at least one representative of local rural fire brigades on IMTs when formed to ensure local input into the decision making process. The BFCC will further consider the issue.*

*From a technical perspective some difficulties have been experienced with radio communications on the fireground. The NSWRFs is progressively addressing these difficulties by complementing the Government Radio Network (GRN) where it does not adequately service the operational needs of Rural Fire Brigades with a UHF Private Mobile Radio Network.*

#### **Cost of Fire Suppression Activities**

*It is true that the majority of available funding is directed toward fire suppression as opposed to prevention activities. No matter how successful a fire prevention program may be the nature of a bush fire is such that a single ignition source can result in a fire burning over the thousands of hectares and threatening assets over a wide area. There are still parts of the State where firefighting resources require upgrading and therefore I expect considerable expenditure on fire suppression hardware for years to come*

*This is not however, at the cost of prevention activities, community education, community fireguard, awareness programmes and hazard reduction activities that continue to be well funded.*

#### **Post Fire Evaluation**

*In most major incidents, debriefing processes do in fact occur. These are designed to specifically identify the value of strategies and to address problems that may have arisen during the management of the incident.*

*A more formal evaluation process will be developed and debriefing guidelines incorporating issues of particular focus will be issued.*

#### **RURAL FIRE SERVICE RESOURCING**

##### **Savings Opportunities**

*The NSWRFs supports the Report's conclusion that significant*

*savings on maintenance expenditure can be made by replacing old and unreliable equipment on a regular basis. In this regard the injection of approximately \$60m over the last 3 financial years and another \$20m in 1998/99 to replace old firefighting tankers and to upgrade the tanker fleet in my view warrants more than a reference in a footnote to the Report.*

*The additional funding to date has facilitated the purchase and development of more than one thousand new and good quality secondhand tankers.*

### **Misuse of Firefighting Resources**

*Instances of this, whilst not common, are of major concern to the Service which has been progressively conducting audits to ensure that such practices are eliminated.*

*It remains a fact however, that the Service has only since the advent of the new legislation in September 1997, had the capacity to insist upon total scrutiny of rural fire management affairs, which hitherto were almost exclusively the province of local government.*

*As more Fire Control Officers are appointed to manage affairs at the local level, the audit process will intensify in the full expectation that such instances will in fact become isolated.*

*Nevertheless, a culture has developed over the last 100 years which has promoted in some quarters the notion that equipment supplied, for which a contribution has been made, resides within the ownership of the user.*

### **Accountability Mechanisms for Equipment**

*Prior to the introduction of the Rural Fires Act there was no mechanism available to the Department to ensure the proper keeping of equipment records by local Councils. Under the provisions of the new Act a Service Standard has been issued to FCOs on the requirement for proper record keeping. Inventory controls are being improved at Regional and Central Office level following an increase in the level of resources.*

### **Rural Fire Fighting Administrative Procedures**

*The NSW RFS is establishing computerised data-bases to better manage funding and other administrative matters. The distribution and use of a new universal software programme is*

*expected to streamline administrative procedures and processes.*

### **Central Database of Firefighting Assets**

*Prior to September 1997 and the commencement of the Rural Fires Act there was no authority to collect information from local Councils about firefighting assets.*

*The NSWRFs is in the process of establishing a centralised database of firefighting assets.*

### **Standards of Fire Cover (SOFC)**

*While the implementation of SOFC resource recommendations to relevant local Councils is not mandatory reasonable progress has been made by the NSWRFs in explaining the SOFC methodology to Councils and having them apply this methodology to determine their resources requirements.*

*The NSWRFs expects to finalise the SOFC program by the end of this financial year.*

### **Sharing Resources**

*The NSWRFs supports the notion of resources sharing and in this respect a growing number of joint NSWRFs/State Emergency Service (SES) facilities can be found throughout the State.*

*Further opportunities exist for capital and recurrent cost savings and therefore the NSWRFs and SES management continue to encourage local government to provide infrastructure on a shared basis.*

*Furthermore efforts are being made by the NSWRFs to provide resources such as fire control centres, catering and communications facilities on a zone basis enabling them to be shared by a number of local Councils. Similarly, the NSWRFs is encouraging local government councils to share key NSWRFs staff such mitigation, training and education officers.*

## **PREVENTION ACTIVITIES**

### **Hazard Reduction**

*In the light of the finding of the Coronial Inquiry into the January 1994 bush fire emergency that the single most*

*important cause of the devastating fires was the prevailing fuel levels, the NSWRFs has undertaken a massive fuel reduction program.*

*In the last 3 financial years more than 1.8m hectares of land has been hazard reduced by the NSWRFs and other agencies. In 1997/98 alone, over 660,000 hectares were subjected to hazard reduction operations.*

### **Guidance of Legislation affecting Rural Firefighting**

*The NSWRFs has prepared and promulgated to Bush Fire Management Committees and land management agencies detailed planning notes on the implications of various environment legislation for hazard reduction activities.*

*The responsibility for environmental assessment of hazard reduction activities rests with relevant land management agencies. In this regard where local government is the proponent of the activity then it has responsibility for undertaking the requisite environmental review.*

### **Community Education**

*The NSWRFs Community Fireguard program is designed to involve the community in the development of self-protection measures and also home and property preparation for bush fires.*

*This and other community education programs offered by the NSWRFs are actively promoted by FCOs and volunteers.*

## **FIREFIGHTERS COMPETENCIES AND TRAINING**

### **Joint Training**

*Joint training, particularly between the urban and rural fire services occurs and has occurred since the early 1970s. The NSWRFs is often involved in the provision of training to NSWFB officers in terms of bush fire fighting and conversely in the areas of structural firefighting and associated incidents. From time to time, industrial issues will arise to mitigate against the positive benefits such training, but in the main, focus continues on the development of joint training across a broad spectrum of activity.*

### **Firefighting Competencies**

*In certain areas of the State there remains strong opposition to formal training of volunteer firefighters. Therefore it is hardly surprising that the greatest successes of volunteer firefighter training are in those areas which have most receptive to this activity. Nevertheless, there exists a high level of competency throughout the NSWRFs and the extent of competency accreditation is expanding rapidly.*

*To simply make the observation that there are differing standards of competency across the State without explanation portrays an incomplete picture. In my view it is simply not accurate to attribute varying standards to the absence a Central Rural Fire Authority.*

### **CONCLUSION**

*Sight ought not be lost of the fact many of the issues raised in the Report have been the subject of frustration to the agency. In September 1997, the provisions of the Rural Fires Act came into effect and provided, for the first time, the legislative framework to address many of these issues.*

*Following immediately was one of the most protracted Fire Seasons in recent times, severely impeding not only the capacity to address the issues, but indeed to fully meet the requirements of the new legislation.*

*Hindsight might suggest that had this review taken place once the benefits of the new legislation had had time to impact, the number of concerns would have been drastically reduced.*

Yours sincerely

(signed)

Phil Koperberg AM AFSM BEM  
Commissioner

## **Appendix 2**

### **Audit Methodology**

#### **Audit Objective and Scope**

The objective of the audit was to assess the extent to which bushfire management and coordination within NSW is conducted in an effective, efficient and economical manner. Bushfire management embraces both fire suppression and fire prevention activities.

The focus of the audit was on determining whether issues identified from the January 1994 fire emergency have been effectively addressed in key stakeholders through revised policies, procedures and processes. The audit considered specifically whether:

- agencies have effective planning, coordination and liaison mechanisms agreed among them to allow for optimal management of fire fighting activities.
- fire fighting resources are allocated and used in such a manner to maximise the benefits to the State.
- agencies cooperate effectively on bushfire prevention, community education and training activities.

#### **Audit Approach**

The audit examined the functions involved in the management and coordination of bushfire activities by:

- holding discussions with key staff in the various emergency response agencies
- collecting and analysing supporting documentation on strategic and tactical facets of bushfire management and coordination activities
- field visits to district offices to review local arrangements
- determining the degree of implementation and compliance with policy and directives at a local level, and
- interviewing other relevant organisations including the Local Government and Shires Associations, local Fire Control Officers and fire fighters, staff associations and interstate agencies.

#### **Audit Criteria**

Audit criteria are reasonable standards against which an auditor may assess the activities subject to audit. Criteria reflect a normative (that is, desirable) control model for the subject matter under review and represent good practice - a reasonable and informed person's expectation of "what should be".

The Audit Office developed the following audit criteria for this audit. The three main bush fire combat agencies were supplied with a copy of the draft criteria for comment at the beginning of the audit. The suggestions provided by these agencies were incorporated into the audit framework.

- analysis of the 1994 bushfire emergency has been undertaken by all the key stakeholders to identify deficiencies. The results of such analysis were then used in subsequent strategic and operational planning.
- communication and coordination amongst the various agencies on fire management issues operate effectively.
- arrangements will exist to determine the level and responsibility for fire coverage in all areas of the State. Each agency will be aware of its role and responsibility under such arrangements and will monitor/report on its performance.
- arrangements will exist to ensure resources are employed effectively and efficiently in fighting bushfires.
- agencies will keep adequate information on fire suppression activities and will use such information to improve continuously bushfire management.
- resources are allocated and used effectively to maximise returns to the State for its bushfire fighting investment.
- resources are standardised to facilitate coordination in large fires.
- agencies will cooperate to undertake effective prevention strategies.
- local communities are encouraged to be the first line of defence.

## Appendix 3

### Other Issues

The RFS was subject to some criticism during the last fire season in relation to the building of communication buses with funds provided by the Sydney Lord Mayor's Appeal and the claim that rural fire tankers were stored in warehouses while the State faced its most severe fire risk since 1994. These issues were reviewed during the course of the audit.

#### *The Building of the Communication Buses*

Following the 1994 bushfires the Sydney Lord Mayor's Appeal provided funds for the purchase and construction of two Forward Command Vehicles (FCVs).

The objective of this project was to improve the communications flows between fire grounds and the State Operations Centre. The FCVs were designed to be a mobile command centre able to be deployed wherever needed in the State and would be equipped with computer and office equipment (such as photocopiers and facsimile machines) as well as various radio and telephone communications equipment.

The Department of Bush Fire Services bought two chassis/body units by September 1994 and began tendering procedures to obtain a contractor for the fitout of the FCVs. However, this project experienced continued delays mainly due to the inability of the Department to find a suitable contractor able to construct the FCVs within the available funding.

After the lengthy tendering process failed to produce a suitable contractor the Department made the decision to sub-contract the work required itself, with some of the work being undertaken by the NSW Fire Brigades. However, progress was slow.

Eventually in July 1997 the Department of Corrective Service was contracted to undertake the remaining work; the estimated time of completion being 1 December 1997. However, difficulties with suppliers again hampered the completion of the project and the FCVs were finally taken into service during April 1998.

This project has been hampered from the outset with cost and production difficulties and the original estimates for the projects were significantly underestimated. As early as September 1994



concerns were being expressed about the Department's ability to purchase and fitout the FCVs within the funds available. And on at least one occasion when no progress had been made for some considerable time in fitting out the FCVs the suggestion was made that the Department sell the chassis/bodies. This recommendation was rejected.

#### *Tankers Unused in Warehouses?*

In late 1997 reports appeared in the press claiming that rural fire tankers were laying idle in warehouses while some areas of the State were facing severe threats from bush fires. The Audit Office reviewed the files on the tankers in question to ascertain whether the RFS tanker procurement process had been efficiently undertaken.

The "tankers" appearing in the media story were in fact cab/chassis (that is, incomplete units) awaiting fitout. These units were not available for fire fighting purposes.

The RFS with the aim of improving the delivery of replacement tankers had entered into three-year contracts with suppliers. One of these contracts was for category seven (Cat 7) type tankers; the contract to supply 40 Cat 7 units was let in September 1997.

Tankers were to be produced at a set rate per month but originally all were to be delivered by the end of November 1997. However, delays in letting the contract meant that the prototype unit was not handed over to the RFS until October 1997 and delivery of the first three production units did not occur until 3 December 1997. Units were then delivered at the rate of 4-5 units per month.

The three-year contract procedure was sound but improvements in the management of the contracts by RFS would be of benefit. For example, delays occurred in providing the contractors with the materials required to complete tankers.

In one instance one of the contractors was unable to begin production because RFS had not arranged the release of cab/chassis despite the prototype unit from this contractor being approved four weeks previously.

A similar instance occurred when foam kits and lights and sirens required to complete other units were unavailable. Items earmarked for the Cat 7 project had been used by other projects without replacements being ordered. Improved project management procedures would overcome such occurrences.

## Performance Audit Reports

Agency or Issue Examined	Title of Performance Audit Report or Publication	Date Tabled in Parliament or Published
Department of Housing	<i>Public Housing Construction: Selected Management Matters</i>	5 December 1991
Police Service, Department of Corrective Services, Ambulance Service, Fire Brigades and Others	<i>Training and Development for the State's Disciplined Services: Stream 1 - Training Facilities</i>	24 September 1992
Public Servant Housing	<i>Rental and Management Aspects of Public Servant Housing</i>	28 September 1992
Police Service	<i>Air Travel Arrangements</i>	8 December 1992
Fraud Control	<i>Fraud Control Strategies</i>	15 June 1993
HomeFund Program	<i>The Special Audit of the HomeFund Program</i>	17 September 1993
State Rail Authority	<i>Countrylink: A Review of Costs, Fare Levels, Concession Fares and CSO Arrangements</i>	10 December 1993
Ambulance Service, Fire Brigades	<i>Training and Development for the State's Disciplined Services: Stream 2 - Skills Maintenance Training</i>	13 December 1993
Fraud Control	<i>Fraud Control: Developing an Effective Strategy (Better Practice Guide jointly published with the Office of Public Management, Premier's Department)</i>	30 March 1994
Aboriginal Land Council	<i>Statutory Investments and Business Enterprises</i>	31 August 1994
Aboriginal Land Claims	<i>Aboriginal Land Claims</i>	31 August 1994
Children's Services	<i>Preschool and Long Day Care</i>	10 October 1994
Roads and Traffic Authority	<i>Private Participation in the Provision of Public Infrastructure (Accounting Treatments; Sydney Harbour Tunnel; M4 Tollway; M5 Tollway)</i>	17 October 1994
Sydney Olympics 2000	<i>Review of Estimates</i>	18 November 1994
State Bank	<i>Special Audit Report: Proposed Sale of the State Bank of New South Wales</i>	13 January 1995
Roads and Traffic Authority	<i>The M2 Motorway</i>	31 January 1995
Department of Courts	<i>Management of the Courts:</i>	5 April 1995

Agency or Issue Examined	Title of Performance Audit Report or Publication	Date Tabled in Parliament or Published
Administration	<i>A Preliminary Report</i>	
Joint Operations in the Education Sector	<i>A Review of Establishment, Management and Effectiveness Issues (including a Guide to Better Practice)</i>	13 September 1995
Department of School Education	<i>Effective Utilisation of School Facilities</i>	29 September 1995
Luna Park	<i>Luna Park</i>	12 October 1995
Government Advertising	<i>Government Advertising</i>	23 November 1995
Performance Auditing In NSW	<i>Implementation of Recommendations; and Improving Follow-Up Mechanisms</i>	6 December 1995
Ethnic Affairs Commission	<i>Administration of Grants (including a Guide To Better Practice)</i>	7 December 1995
Department of Health	<i>Same Day Admissions</i>	12 December 1995
Environment Protection Authority	<i>Management and Regulation of Contaminated Sites: A Preliminary Report</i>	18 December 1995
State Rail Authority of NSW	<i>Internal Control</i>	14 May 1996
Building Services Corporation	<i>Inquiry into Outstanding Grievances</i>	9 August 1996
Newcastle Port Corporation	<i>Protected Disclosure</i>	19 September 1996
Ambulance Service of New South Wales	<i>Charging and Revenue Collection (including a Guide to Better Practice in Debtors Administration)</i>	26 September 1996
Department of Public Works and Services	<i>Sale of the State Office Block</i>	17 October 1996
State Rail Authority	<i>Tangara Contract Finalisation</i>	19 November 1996
NSW Fire Brigades	<i>Fire Prevention</i>	5 December 1996
State Rail	<i>Accountability and Internal Review Arrangements at State Rail</i>	19 December 1996
Corporate Credit Cards	<i>The Corporate Credit Card (including Guidelines for the Internal Control of the Corporate Credit Card)</i>	23 January 1997
NSW Health Department	<i>Medical Specialists: Rights of Private Practice Arrangements</i>	12 March 1997
NSW Agriculture	<i>Review of NSW Agriculture</i>	27 March 1997

<b>Agency or Issue Examined</b>	<b>Title of Performance Audit Report or Publication</b>	<b>Date Tabled in Parliament or Published</b>
Redundancy Arrangements	<i>Redundancy Arrangements</i>	17 April 1997
NSW Health Department	<i>Immunisation in New South Wales</i>	12 June 1997
Corporate Governance	<i>Corporate Governance Volume 1 : In Principle Volume 2 : In Practice</i>	17 June 1997
Department of Community Services and Ageing and Disability Department	<i>Large Residential Centres for People with a Disability in New South Wales</i>	26 June 1997
The Law Society Council of NSW, the Bar Council, the Legal Services Commissioner	<i>A Review of Activities Funded by the Statutory Interest Account</i>	30 June 1997
Roads and Traffic Authority	<i>Review of Eastern Distributor</i>	31 July 1997
Department of Public Works and Services	<i>1999-2000 Millennium Date Rollover: Preparedness of the NSW Public Sector</i>	8 December 1997
Sydney Showground, Moore Park Trust	<i>Lease to Fox Studios Australia</i>	8 December 1997
Department of Public Works and Services	<i>Government Office Accommodation</i>	11 December 1997
Department of Housing	<i>Redevelopment Proposal for East Fairfield (Villawood) Estate</i>	29 January 1998
NSW Police Service	<i>Police Response to Calls for Assistance</i>	10 March 1998
Fraud Control	<i>Status Report on the Implementation of Fraud Control Strategies</i>	25 March 1998
Corporate Governance	<i>On Board: guide to better practice for public sector governing and advisory boards (jointly published with Premier's Department)</i>	7 April 1998
Casino Surveillance	<i>Casino Surveillance as undertaken by the Director of Casino Surveillance and the Casino Control Authority</i>	10 June 1998
Office of State Revenue	<i>The Levying and Collection of Land Tax</i>	5 August 1998
NSW Public Sector	<i>Management of Sickness Absence NSW Public Sector Volume 1: Executive Briefing Volume 2: The Survey - Detailed Findings</i>	27 August 1998
NSW Police Service	<i>Police Response to Fraud</i>	14 October 1998

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<b>Agency or Issue Examined</b>	<b>Title of Performance Audit Report or Publication</b>	<b>Date Tabled in Parliament or Published</b>
Hospital Emergency Departments	<i>Planning Statewide Services</i>	21 October 1998
NSW Public Sector	<i>Follow-Up of Performance Audits: 1995-1997</i>	17 November 1998
NSW Health	<i>Management of Research Infrastructure Grants Program - A Case Study</i>	25 November 1998
Rural Fire Service	<i>The Coordination of Bushfire Fighting Activities</i>	December 1998

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