

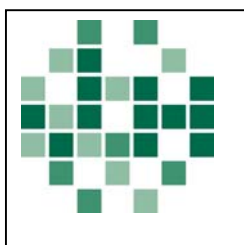
Regulatory Impact Statement

Rural Fires Regulation 2002:

To be made under

Rural Fires Act 1997

NSW Ministry for Emergency Services



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TABLE OF CONTENTS

Section	Page Number
EXECUTIVE SUMMARY	i
1. Introduction.....	1
1.1 Purpose of the Report.....	1
1.2 Purpose of the Regulation	1
1.3 What is a Regulatory Impact Statement?	1
1.4 General RIS Methodology Adopted	2
1.4.1 NSW Government Regulatory Impact Statement Manual.....	2
1.4.2 Review of Documentation	2
1.4.3 Interviews	3
1.5 Structure of the Report.....	3
1.6 Description of the Proposed Legislative Change	4
1.6.1 Recent Amendments to the Regulation.....	5
1.6.2 The Proposed Rural Fires Regulation 2002.....	6
1.6.3 Enabling Act.....	6
1.6.4 Penalties	6
1.7 Responsible Minister.....	7
1.8 Responsibility Authority	7
2. Development of the Objective of the Regulation	8
2.1 The Nature and Purpose of the Rural Fire Service	8
2.1.1 The NSW Rural Fire Service.....	8
2.1.2 Vision.....	9
2.1.3 Rural Fires Service Mission Statement	9
2.1.4 Key Result Areas.....	9
2.1.5 KRAs 1, 2 and 4 are Relevant to the Proposed Regulation	10
2.2 The Rural Fire Service Organisation.....	10
2.2.1 Structure and Accountability	10
2.2.2 NSW Rural Fire Brigades.....	11
2.2.3 Fire Control Officers.....	12
2.2.4 Bush Fire Coordinating Committee	13
2.3 The Impact of Rural Fires in New South Wales	13
2.3.1 Causes	13
2.3.2 Incidence.....	13
2.4 The Consultation Process	16
2.5 The Statutory Status and Expected Effects of the Regulation.....	17
2.5.1 Statutory Status	17
2.5.2 Expected Effects of the Regulation.....	17
2.6 Means and Processes of Administration and Enforcement of the Regulation.....	18
2.7 A Statement of the Objective of the Regulation.....	18
3. Impact Analysis of the Regulation.....	19
3.1 Identification of Affected Parties	19
3.2 Recognition of the Need to Ensure that Costs and Benefits Considered are <i>Incremental</i> ...	19
3.3 General Method of Approach	19
3.3.1 Benefits are Reductions in Costs.....	19
3.3.2 Expected Reduction in the Incidence and Scope of Bushfires.....	19
3.3.3 No Direct 'Cause and Effect' Relationship	20
3.3.4 Outline of Approach.....	20
3.4 Exclusion of Transfer Costs.....	21
3.5 Consideration of Distributional Effects	21
3.6 Summary of the Nature of Costs and Benefits	21
3.7 Categories of Benefits and Costs.....	26
3.8 Benefits of the Regulation.....	27

TABLE OF CONTENTS

3.9	Costs of the Regulation	27
3.9.1	Tangible Direct Costs	27
3.9.2	Intangible: Direct Costs Which Are Qualitative	32
3.9.3	Tangible: Indirect Costs Which Can Be Expressed In Monetary Terms.....	34
3.9.4	Intangible: Indirect Costs Which Are Qualitative	35
3.10	Present Value of Costs of the Proposed Regulation.....	35
4.	Impact Analysis of the Alternatives.....	36
4.1	Alternatives to the Proposed Regulation Considered	36
4.1.1	Self Regulation.....	36
4.1.2	Alternative 1	36
4.2	Benefits of Alternative 1	37
4.3	Costs of Alternative 1	37
4.3.1	Tangible: Direct Costs Which Can Be Expressed In Monetary Terms	37
4.3.2	Intangible: Direct Costs Which Are Qualitative	39
4.3.3	Tangible: Indirect Costs Which Can Be Expressed In Monetary Terms.....	40
4.3.4	Intangible: Indirect Costs Which Are Qualitative	40
4.4	Present Value of Costs of Alternative 1	40
5.	Evaluation of Relative Impacts.....	41
5.1	Summary of Costs of the Proposed Regulation	41
5.2	Present Value.....	41
5.3	Net Present Value.....	42
5.4	Sensitivity and Break-Even Analysis.....	42
5.4.1	Sensitivity of NPV to the costs of Property Damage.....	42
5.4.2	Sensitivity of NPV to Compliance Costs.....	42
5.4.3	Summary.....	43
5.5	Discussion	43
5.5.1	Other Alternative Considered.....	44
5.6	Justification for Selecting or Rejecting the Regulation	44
5.7	Recommendation.....	45
6.	Methodology	46
6.1	Description of the Methods Used and the Assumptions Adopted in the Analysis	46
6.1.1	Methods Used.....	46
6.1.2	Primary Assumptions	46
6.2	List of Data and Information Sources Used.....	47
6.3	The Consultation Process and the List of Parties to be Consulted	47

ATTACHMENT A: Spreadsheets showing Costs Analyses and the Calculation of Net Present Values.

INDEX OF TABLES

Table	Page Number
TABLE 1: OUTLINE OF APPROACH TAKEN	20
TABLE 2: COMPLIANCE COST SUMMARY OF REGULATION	29
TABLE 3: NUMBER OF LIVES LOST IN NSW BUSH FIRES SINCE 1964/65	30
TABLE 4: ANNUAL AVERAGE INSURANCE COSTS FOR RURAL FIRES	32
TABLE 5: COMPLIANCE COSTS SUMMARY OF ALTERNATIVE 1	37
TABLE 6: ANNUAL COSTS OF BUSHFIRES - ALTERNATIVE 1	40
TABLE 7: COSTS OF THE REGULATION AND ALTERNATIVE 1	41
TABLE 8: PRESENT VALUE OF COSTS OF PROPOSED REGULATION	41
TABLE 9: CHANGE IN INCREMENTAL NPV WITH A CHANGE IN THE COSTS OF PROPERTY DAMAGE	42
TABLE 10 : SENSITIVITY OF INCREMENTAL NPV TO ESTIMATED ANNUAL COMPLIANCE COSTS	43

INDEX OF FIGURES

Figure	Page Number
FIGURE 1: STRUCTURE AND ACCOUNTABILITY OF THE RURAL FIRE SERVICE.....	11

EXECUTIVE SUMMARY

TITLE OF REGULATION

The proposed Regulation is titled Rural Fires Regulation 2002.

NAME OF PROPONENT AND RESPONSIBLE MINISTER

The Minister for Emergency Services is the proponent and the responsible Minister.

OBJECTIVES OF THE PROPOSED REGULATION

The following is a statement of the Objectives of the Rural Fires Regulation 2002:

“To provide administrative support to assist in conserving, protecting and managing the safety of persons, property and the environment exposed to bush and other fires in rural fire districts in New South Wales”.

OUTLINE OF THE INTENT OF THE PROPOSED REGULATION

The proposed Regulation contains provisions associated with the prevention, control and management of bush and other rural fires within New South Wales and the rural fire fighting infrastructure, through which these activities are conducted.

OUTLINE OF THE BENEFITS AND COSTS OF THE PROPOSED REGULATION

The expected benefits of the Regulation relate to a reduction in the risk of the incidence and scope of bushfires and the subsequent reduction in the costs of bushfires.

The Regulation is expected to cause reductions in:

- The costs of stock and property loss or damage due to rural fires.
- The economic and social costs of deaths and injuries resulting from rural fires.
- Other social costs of rural fires such as the social costs of lost homes.
- The environmental costs of rural fires.
- The costs of workers' compensation insurance borne by the Rural Fire Service.

The largest reduction in costs relates to property damage due to rural fires. The Regulation is expected to reduce the present value of these costs over 5 years at a 7% discount rate by approximately \$40 million compared to having no Regulation (Alternative 1).

The major incremental quantitative costs imposed by the Regulation are the human resource and compliance costs of the Rural Fire Service and others. These costs have a present value of approximately \$30 million over 5 years at a 7% discount rate.

ALTERNATIVES IDENTIFIED

The following have been provided as potential alternatives to the proposed Regulations.

Table 1: Alternatives considered

Alternative 1 – Base Case	Do Nothing – repeal the current Regulation
Alternative 2	Self-Regulation

Alternative 2 was rejected as infeasible and inadequate to meet the objectives. The Regulation was compared against Alternative 1 using cost-benefit analysis.

NET PRESENT VALUE ANALYSIS

The Present Value of Costs of the proposed Regulation is \$403,151,024 over 5 years at a discount rate of 7%. The net present value of the proposed Regulation compared to Alternative 1 is \$14,867,049 over five years at a discount rate of 7%.

This calculation does not include all the costs which could not be quantified. These unquantified costs include:

- The reduction in environmental costs anticipated under the Regulation
- The reduction in the costs of stock losses anticipated under the Regulation
- The reduction in the costs of injuries (including OH&S) anticipated under the Regulation
- The reduction in the social costs related to injuries and loss of homes anticipated under the Regulation
- The possible increase (or decrease) in costs to prospective developers.

The analysis assumes that the Regulation will reduce the incidence and scope of bushfires such that:

- One death due to rural fires is saved per year
- The annual average cost of property loss and damage due to rural fires is 10% less under the Regulation than Alternative 1.

The Sensitivity Analysis indicates that if the costs of property loss and damage are 6.3% less under the Regulation than Alternative 1, the NPV of the Regulation and Alternative 1 break even. The Sensitivity Analysis also indicates that even if the compliance costs increase by over 50% the NPV of the Regulation is still positive. Thus it is considered that the positive NPV of the Regulation compared to the Alternative is relatively robust.

IMPACT ON NATIONAL COMPETITION POLICY

The Proposed Regulation does not have any significant adverse impacts on the implementation of the National Competition Policy.

OVERALL ASSESSEMENT

Notwithstanding the limitations of the quantitative analysis, the proposed regulation is the best option. As well as a higher NPV than Alternative 1, the Regulation has significant qualitative benefits and best meets the identified objectives. The Regulation is expected to reduce the risk of the incidence and scope of bush and other rural fires in NSW.

The costs imposed on the community by the Regulation are relatively minor and are largely borne by the Rural Fire Service. It can be said that to save the compliance costs and adopt Alternative 1 and have no Regulation at all would result in an increase in catastrophic risk.

PREPARATION OF THIS REGULATORY IMPACT STATEMENT

This Regulatory Impact Statement was prepared after consultation with industry members and the Rural Fire Service. The methods used in the preparation of the RIS reported herein were based on:

- * The "Regulatory Impact Statement Instruction Manual" issued by the Business Deregulation Unit of the NSW Department of State Development;
- * The NSW Treasury Technical Paper titled "*Guidelines for the Economic Appraisal of Assets*", issued in January 1990.

1. INTRODUCTION

1.1 Purpose of the Report

This Report is a Regulatory Impact Statement (RIS) of the proposed Rural Fires Regulation 2002.

The Regulation is to be made by the Minister for Emergency Services through the NSW Rural Fire Service (RFS) under the NSW Rural Fires Act 2002.

1.2 Purpose of the Regulation

The proposed Regulation contains provisions associated with the prevention, control and management of bush fires within New South Wales and the rural fire fighting infrastructure, through which these activities are conducted.

The provisions of the proposed Regulation are described in Section 1.6.2 below.

1.3 What is a Regulatory Impact Statement?

The preparation of Regulatory Impact Statements is required under the *Subordinate Legislation Act 1989 (NSW)*.

In an effort to reduce unnecessary regulation this *Act* requires departments and authorities to consider the economic costs and social aspects of any new Regulation and to consider optional ways of meeting the new Regulation's objectives. The option that produces the greatest net public good is then chosen.

This *Act* provides for the preparation of a Regulatory Impact Statement (RIS) and public consultation prior to making a Regulation as part of the mechanism by which the option which produces the greatest net public good can be chosen. The *Act* details provisions applying to the preparation of Regulatory Impact Statements.

The underlying purpose of the RIS procedure is to ensure that the approved Regulation is the preferred course of action in achieving a policy objective. The RIS procedure aims to ensure that:

- The Regulation is the most efficient and effective way of achieving defined policy objectives, and
- The Regulation entails minimum cost to the community or produces an outcome where the expected benefits resulting from it outweigh the expected costs to the community.

The RIS must include:

- A statement of the objectives of the Regulation and the reason for them;
- An identification of the alternative options by which those objectives can be achieved, either wholly or in part;
- An assessment of the costs and benefits of the Regulation, including the costs and benefits relating to resource allocation, administration and compliance;
- An assessment of the costs and benefits of each alternative to the making of the Regulation, including the costs and benefits relating to resource allocation, administration and compliance. This assessment must include the alternative of not proceeding with any action;
- An assessment as to which of the alternatives involves the greatest net benefit to the community;
- A statement of the consultation program to be undertaken.

The outcomes of the impact of a Regulation are expressed in terms of the results of:

- ‘cost-benefit’ analyses where the costs and benefits flowing from the Regulation can be measured in monetary terms, or
- ‘cost-effectiveness’ analyses where the benefits of the Regulation do not lend themselves to monetary quantification.

Qualitative costs and benefits may also be important as supporting benefits in both cost-benefit and cost-effectiveness analysis. Qualitative costs and benefits may involve consideration of matters affecting, for example, quality of life, environmental pollution, visual amenity, etc.

Cost-benefit analysis has been used in the preparation of the Regulatory Impact Statement reported herein.

1.4 General RIS Methodology Adopted

1.4.1 NSW Government Regulatory Impact Statement Manual

The procedures used for the development of the RIS reported herein were those contained in *NSW Government Regulatory Impact Statement Manual* issued in October, 1993, by the NSW Department of Business and Regional Development (the *Manual*).

1.4.2 Review of Documentation

Documentation was obtained from the RFS and from interviewees. Information from the documentation was used as input to the impact analysis.

A list of documentation studied is given at Section 6.2.

1.4.3 Interviews

Interviews were conducted with key Stakeholders using a Stakeholder list developed in consultation with the RFS.

A list of interviewees is given at Section 6.3.

1.5 Structure of the Report

The Impact Statement is structured in terms of Five Sections with the Tasks in each Section as specified in the *Manual* given below.

Section 1: Rural Fires Regulation 2002

Task 1: Establishes the Objectives of the Regulation

Task 2: Outlines the statutory status and expected effects of the Regulation

Task 3: Specifies the means and processes of enforcing the Regulation

Section 2: Impact Analysis of the Regulation

Task 4: Identifies the affected parties and specifies and quantifies the relevant benefits.

Task 5: Specifies and quantifies the relevant costs.

Task 6: Compares the costs and benefits and assesses the impact of the Regulation

Section 3: Impact Analysis of Alternatives

Task 7: Defines the major alternatives to the Regulation

Task 8: Specifies and quantifies the benefits of the Alternatives.

Task 9: Specifies and quantifies the costs of the Alternatives.

Task 10: Compares, evaluates and assesses the costs and benefits of the Alternatives.

Section 4: Evaluation of Relative Impacts

Task 11: Provides an overall comparison and evaluation of the relative net costs / benefits of the Regulation

Task 12: Provides justification for selecting or rejecting the Regulation.

Section 5: Methodology

Task 13: Provides a description of the methods used and the assumptions adopted in the analysis.

Task 14: Lists data and information sources used.

Task 15: Outlines the consultation process and the list of parties consulted.

An **Attachment** to the Report provides information as follows:

Attachment A: Spreadsheets showing cost analyses and the calculation of Net Present Value of the proposed Regulation.

1.6 Description of the Proposed Legislative Change

In 1997, the Government introduced a new Rural Fires Act and it is the Regulation under that Act that is the focus of this Regulatory Impact Statement.

The major impetus for the development of the Rural Fires Act was the bush fire emergency that occurred in NSW in December, 1993 and January, 1994. Over a period of 20 days more than 800 individual fires occurred across 800,000 hectares of land, threatened the urban fringe of Sydney as well as numerous towns and villages along the coastal plains and ranges of the State.

The resultant damage and loss that included 4 lives and 206 homes were the focus of an extensive Coronial Inquiry conducted between August, 1994 and February, 1996.

The Rural Fires Act is the result of the Coroner's findings and recommendations and the lessons learned by all involved in the 1993/94 emergency. One of the principal recommendations of the Coroner was that the Government should introduce a more cohesive and integrated command structure under the umbrella of a Rural Fire Service. The Government's response to this recommendation was to pursue two policy objectives:

1. The establishment of the Rural Fire Service; and
2. Closer cooperation between the Rural Fire Service and other fire fighting authorities (ie. NSW Fire Brigades, National Parks and Wildlife Service, NSW State Forests).

The *Rural Fires Act 1997* was established to:

- Recognise contemporary fire management practices.
- Afford proper consideration to the needs of the environment by adopting ecologically sustainable development as an underlying principle.
- Facilitate cooperative and coordinated bush fire management of bush fire prevention, mitigation and suppression through the auspices of the Bush Fire Coordinating Committee.
- Encourage public participation in the preparation of local Bush Fire Management Plans by Bush Fire Management Committees.
- Allow the issue by the Commissioner of Service Standards that include Standard Operating Procedures.

- Describe the matters on which these Standards can be issued.
- Provide for consultation about Service Standards with the Rural Fire Service Advisory Council.
- Creates the Rural Fire Service Advisory Council as the body advising the Minister and the Commissioner on matters pertaining to the management and administration of the Rural Fire Service, public education programs and training of rural fire fighters.

The Act provides a clear chain of command under which the Commissioner of the Rural Fire Service can assume responsibility for major bush fire emergencies. However, local autonomy over local matters is preserved. Day-to-day local issues continue to be administered by Fire Control Officers, Captains and other Brigade officers on the ground, as exists at the present time.

A structure and accountability diagram of the participants in the management of the rural fire organisation is given in **Section 2.2.1** below.

1.6.1 Recent Amendments to the Regulation

In the aftermath of the devastating 2001/02 bush fire season, the Act has recently been amended. The amendments increase the powers of the Rural Fire Service (RFS) with regard to bush fire hazard reduction and also require bush fire safety authority from the RFS for certain developments. The aim of the amendments is to increase protection from rural fires.

The proposed Regulation is a re-make of the current Rural Fires Regulation 1997 with several amendments. The amendments fall into three categories:

1. Amendments consequential to the changes in the Act.

These are mainly additions to Part 6 of the Regulation and relate to Section 100 of the Act. The new clauses,

- define land to be excluded from the new streamlined approval process for bush fire hazard reduction work
- prescribe the content and form of applications for a bush fire safety authority
- define additional 'special fire protection purpose' for which the Commissioner may issue a bush fire safety authority
- prescribe the content and form of applications for a bush fire hazard reduction certificate

2. Amendments aimed at improving the internal management of the RFS.

- to facilitate the removal of inactive members from the register of volunteers and so reduce workers' compensation insurance costs
 - to explicitly include breaches of Service Standards as grounds for disciplinary action to increase clarity and improve safety for employees and volunteers
 - to prescribe the appointment of Executive Officers of Bush Fire Management Committees
3. Amendments aimed at improving clarity or updating certain clauses.
- There are also several minor amendments that improve the clarity of the Regulation. They are immaterial to the impact of the Regulation and are thus not considered further in this RIS.

1.6.2 The Proposed Rural Fires Regulation 2002

The Rural Fires Regulation 2002 contains provisions in respect of the following matters:

1. Part 1: Preliminary - contains the name of the Regulation, commencement date, definitions and notes.
2. Part 2: Rural Fire Brigades and Groups of Rural Fire Brigades - contains matters associated with Rural Fire Brigades, their membership, disciplinary action and incident reports.
3. Part 3: Bush Fire Management Committees - contains matters associated with the constitution, membership, functions and procedures of Committees.
4. Part 4: Fire Prevention (Division 1 - General, and Division 2 - During Bush Fire Danger Periods) - contains matters associated with burning, safety requirements and roadside fire protection, together with restrictions during bush fire danger periods.
5. Part 5: Notices - contains matters associated with the giving of notices.
6. Part 6: Miscellaneous Matters - contains matters associated with bush fire hazard reduction work, voluntary work by Brigades, conditions of fire permits, uses of insignia, bravery awards, bush fire safety authorities, applications for bush fire hazard reduction certificates etc.

1.6.3 Enabling Act

The Regulation is to be made under the *Rural Fires Act 2002*.

1.6.4 Penalties

Monetary penalties are imposed by the Regulation for non-compliance with certain provisions.

1.7 Responsible Minister

The Minister responsible for the proposed Regulation is the NSW Minister for Emergency Services.

1.8 Responsible Authority

The Authority responsible for the administration of the proposed Regulation is the NSW Rural Fire Service.

2. DEVELOPMENT OF THE OBJECTIVE OF THE REGULATION

This Section of the RIS develops the Objective of the Regulation. It addresses:

- The Nature And Purpose of The Rural Fire Service.
- The Rural Fire Service Organisation.
- The Impact of Bush Fires In New South Wales.
- The Consultation Process in Development of The RIS.
- The Statutory Status and Expected Effects of The Regulation.
- Means And Processes of Enforcing the Regulation.
- A Statement of the Objective of the Regulation.

2.1 The Nature and Purpose of the Rural Fire Service

2.1.1 The NSW Rural Fire Service

The NSW Rural Fire Service is a State Government agency set up to administer the Minister's responsibilities under the Act.

The RFS provides the platform for the advancement of programs designed to support the 70,000 volunteer rural firefighters such as training, equipment, planning, coordination of operations and community education.

The RFS ensures the coordination of rural firefighting activity by Rural Fire Service Brigades and other government agencies with fire suppression capabilities such as the National Parks and Wildlife Service, State Forests of NSW and the NSW Fire Brigades. It also provides a secretariat for the Bush Fire Coordinating Committee and the Rural Fire Service Advisory Council, and administers the functions and responsibilities of these bodies. The RFS is responsible to the Minister for Emergency Services.

To ensure the best possible service to its customers, the RFS has introduced a Guarantee of Service. This emphasises commitment to customer service.

The RFS employs 161 permanent staff (full-time equivalent) with the majority of staff located at the RFS Head Office located at Rosehill. The remaining staff are located in eight Regional Offices throughout the State with additional personnel employed at the RFS training facility at the Police Academy at Goulburn.

Sections within the RFS include Administration, Financial Services, Personnel Resources, Public Affairs, Operations, Planning Services, Strategic Development, Engineering Services and Training Services.

Located at Head Office is the State Operations Centre which gathers and delivers information across the State to:

1. Coordinate the allocation of resources for fire fighting and other emergencies across the State.
2. Make Total Fire Ban decisions.
3. Provide information for the benefit of the public.

The Regional Offices provide a link between the RFS, local government and other authorities and organisations with fire management responsibilities.

The role and functions of the NSW RFS arise from the Act and can be summarised as follows:

- The protection of life and property for all fire related incidents within all rural fire districts in the State;
- The safety and welfare of all volunteers;
- The provision of effective training and resources to rural fire brigades; and
- The provision of emergency assistance to other emergency services organisations.

2.1.2 Vision

The Vision of the Rural Fire Service is:

To provide a world standard of excellence in the provision of a community based fire and emergency service.

2.1.3 Rural Fires Service Mission Statement

The RFS's Mission Statement is:

"To protect the community and our environment we will minimise the impact of fire and other emergencies by providing the highest standards of training, community education, prevention, and operational capability."

2.1.4 Key Result Areas

The RFS has identified six Key Result Areas (KRAs). These are:

KRA 1: Rural Fire Service

- To ensure the operational effectiveness of the New South Wales Rural Fire Service.

KRA 2: Coordinated Bush Fire Management

- To strengthen and foster the development of plans and management structures to facilitate effective and coordinated bush fire management between all relevant agencies.

KRA 3: Equipment

- To provide and manage an appropriate level of resources to minimise losses from fire.

KRA 4: Fire Prevention and Safety

- To encourage fire safety and prevention and promote community awareness of the relationship between fire and the environment and its effect on land use planning.

KRA 5: Our People

- To develop and maintain competent and motivated Service personnel who will recognise the Service as a fair and equitable agency which values its people and provides a safe, satisfying and focused work environment.

KRA 6: Corporate Management

- To provide effective and professional financial and organisational leadership in the operational and strategic management of the Rural Fire Service.

2.1.5 KRAs 1, 2 and 4 are Relevant to the Proposed Regulation

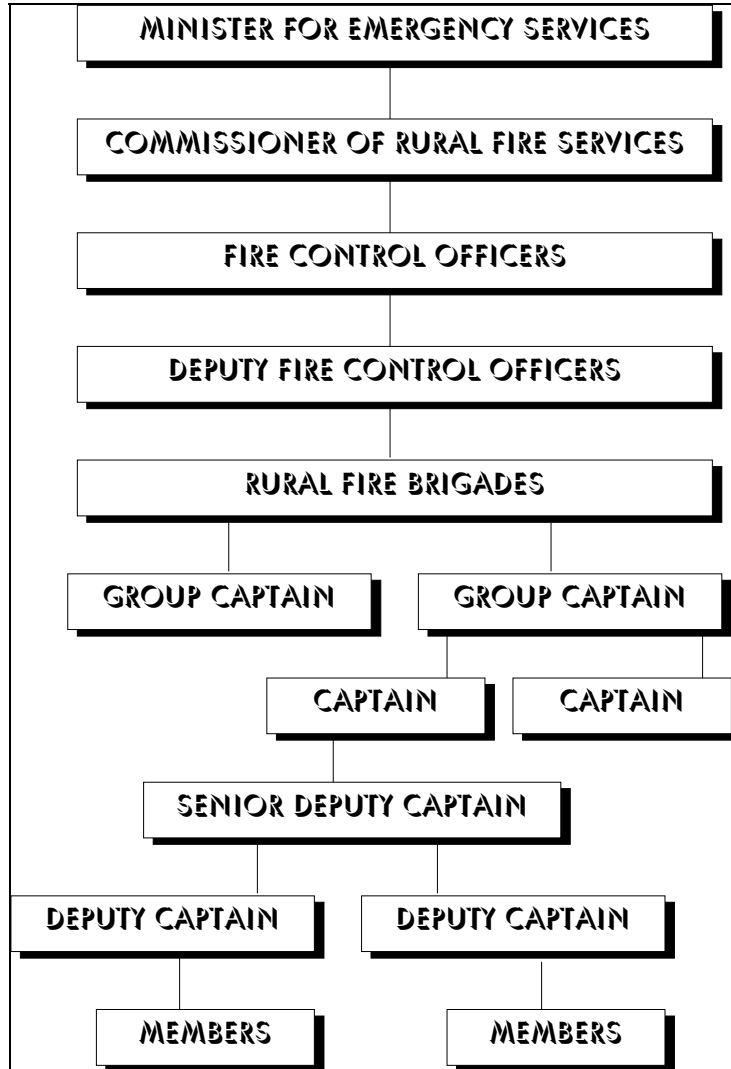
The primary KRAs relevant to the proposed Rural Fires Regulation discussed herein are KRAs 1, 2 and 4.

2.2 The Rural Fire Service Organisation

2.2.1 Structure and Accountability

The following diagram shows the structure and accountability of the Rural Fire Service.

Figure 1: Structure and Accountability of the Rural Fire Service



2.2.2 NSW Rural Fire Brigades

There are approximately 2,400 volunteer Rural Fire Brigades in the State with a total of approximately 70,000 members.

Volunteer Rural Fire Brigade members play the major role in fighting fires in about 90% of the State of NSW. State Forests of NSW and the National Parks and Wildlife Service are responsible for 10% of the State. Larger towns and cities are protected by the NSW Fire Brigades.

The majority of Rural Fire Brigades are formed and organised by local government councils and shires. The number of Brigades in a council or shire area can vary from 1 to as many as 45.

A Volunteer Brigade Captain is appointed to each Brigade along with one or more Deputy Captains. Brigades also have other officers such as a Secretary and those responsible for equipment, training, first aid, communications and catering.

Brigades hold regular meetings, training sessions and fire prevention activities such as controlled burning exercises and trail or firebreak construction and maintenance. Brigades hold regular community education exercises with schools and community groups.

The role of Rural Fire Brigades now encompasses far more than rural fire activities. Members are regularly called upon to attend fires caused by road accidents and assist the Police Service and the State Emergency Service in search and rescue operations.

Rural Fire Brigades also provide the sole or main means of fire protection to some 1,200 towns and villages in NSW. While each Brigade operates within specific boundaries, they may be called on to assist in a neighbouring area or anywhere across the State.

Many Brigades travel long distances to assist in areas where fires are beyond local control. These Brigades are part of the State Tactical Assistance Response and Regional Response Groups formed in many regions of the State.

2.2.3 Fire Control Officers

Most of the 172 local government areas in NSW which manage the State's 2,400 Rural Fire Brigades have appointed Fire Control Officers and Deputy Fire Control Officers.

The Fire Control Officer is a statutory appointment under the Rural Fires Act and is the senior rural fire officer in the council area (unless an emergency appointment has been made). The Fire Control Officer coordinates, supervises and directs the operations and activities of the Brigades in the council area. Equipment requirements and training are also the responsibility of the Fire Control Officer either directly or through staff appointed to manage that function.

The Fire Control Officer manages the control centre set up for the overall supervision of fires in the council area. Some councils have mobile canteens and communication units which are used in the field during firefighting activities. These units are staffed by Brigade members.

Some Fire Control Officers and their Deputies are full-time, some part-time and others honorary.

2.2.4 Bush Fire Coordinating Committee

The Bush Fire Coordinating Committee consists of twelve members. It is established under Part 3 Division 2 of the Rural Fires Act 2002 and is responsible for:

- Planning in relation to bush fire prevention and coordinating bush firefighting activities.
- Advising the Commissioner on bush fire prevention, mitigation and coordination of bush fire suppression.

The Act also provides for the Bush Fire Coordinating Committee to establish Bush Fire Management Committees, the functions of which are prescribed in the Regulation.

2.3 The Impact of Rural Fires in New South Wales

2.3.1 Causes

Fires have a wide variety of causes. Bush fires, for example, start from natural causes such as lightning strikes and accidental causes such as sparks from farm machinery, incinerators, power lines, vehicle crashes, burning-off and camp fires. Structure fires are caused by electrical failure, smoking and cooking accidents.

Unfortunately, a large number of fires are also started deliberately.

2.3.2 Incidence

Structure fires occur all year round while most bush fires occur during the Bush Fire Danger Period nominally established across the months of October 1 to March 31 each year. As the dates below indicate, some bush fire seasons are worse than others.

1957 - Bush fires in the Blue Mountains area driven by gale force winds destroyed 25 homes, shops, schools, churches and a hospital.

1964/65 - Major fires occurred in the Snowy Mountains, Southern Tablelands and outer metropolitan area. The Chatsbury/Bungonia fire covered 250,000 hectares and destroyed the village of Wingello. Three lives were lost.

In March the Tumut Valley fire burnt 80,000 hectares.

1968/69 - Widespread damage occurred over much of the eastern part of the State. Major fires at Wollongong burnt rainforest, destroyed 33 homes and five other buildings. Fires in the lower Blue Mountains were fanned by 100 kilometres/hour westerly winds and destroyed 123 buildings.

Three lives were lost.

1969/70 - The Roto fire burnt some 280,000 hectares in a three week period.

1972/73 - The south-eastern corner of the State suffered the worst fires since 1968 with over 200,000 hectares burnt. The Burrinjuck fire burnt 16,000 hectares and was reported to have travelled 19 kilometres in three hours, denuding a hillside in its path.

1974/75 - The severest season for perhaps 30 years in the far west with 3,755,000 hectares burnt, 50,000 stock lost and 10,170 kilometres of fencing destroyed. 1.5 million hectares were burnt in the Cobar Shire in mid-December and 340,000 hectares in the Balranald fire.

The Moolah-Corinya fire burnt 1,117,000 hectares and was the largest fire put out by bush firefighters - not the weather. Its perimeter was over 1,000 kilometres.

1976/77 - In early December, 9,000 hectares were burnt and three homes destroyed in Hornsby Shire, and 65,000 hectares were burnt in the Blue Mountains.

1977/78 - In the Blue Mountains area 49 buildings were destroyed and 54,000 hectares burnt. Sydney suburbs up to 60 kilometres away were showered with fallout of blackened leaves.

1978/79 - Serious fires occurred in the Southern Highlands and South West Slopes regions. Over 50,000 hectares were burnt, five houses were destroyed and heavy stock losses were inflicted.

1979/80 - Following severe drought conditions over most of the State, major fires were widespread. In Mudgee Shire 55,400 hectares were burnt and one life was lost. 9,000 hectares were burnt in Warringah Shire and 14 houses lost.

Fires occurred in the majority of council areas within the State burning a total of over 1 million hectares.

1980/81 - In this year 887,000 hectares burnt across the State and 8 lives were lost including 5 losses during the Waterfall fires which occurred on 3/11/80.

1982/83 - \$12 million worth of pine plantation was destroyed in southern NSW in a fire which burnt 25,000 hectares in only two and a half hours. The Grose Valley fire burnt 35,000 hectares. 337 hectares were burnt in the Royal National Park (Gray's Point) fires with 3 lives being lost.

1984/85 - This was the worst fire season for ten years in the grassed western areas of the State. On Christmas Day more than 100 fires were started by lightning strikes

and 500,000 hectares burnt as a result. The largest fire was at Cobar in mid-January with 516,000 hectares burnt.

During the season there were 6,000 fires State-wide, 3.5 million hectares burnt, four lives lost, 40,000 stock lost and \$40 million damage.

1987/88 - Over 115,000 hectares were burnt in the Bethungra and Warurillah/Yanco fires with three lives lost at the Bethungra fire. Major fires also occurred in the south eastern part of Kosciusko National Park where 65,000 hectares were burnt in the Park and surrounding areas.

1990/91 - In November fires raced through the council areas of Hay and Murrumbidgee, claimed nearly 200,000 hectares of prime grazing land, destroyed 100,000 sheep and hundreds of kilometres of fencing. Just one week later 80,000 hectares of land were burnt as fires claimed another 76,000 sheep and 200 cattle in Hay and Carrathool Shires.

On December 23, hundreds of fires were reported across the State with eight emergency declarations made in the Hornsby, Ku-ring-gai, Cessnock, Hawkesbury, Warringah, Wollondilly, Gosford and Wyong council areas.

Eight homes were lost in these fires.

1991/92 - On October 16, two lives were lost at Kenthurst in the Shire of Baulkham Hills. Emergency declarations were made for the councils of Baulkham Hills, Gosford City, Wyong Shire and Lake Macquarie. Nearly 2,500 bush firefighters battled more than 30 blazes around the State. 14 homes were destroyed.

1993/94 - In late December 1993, a series of fires began on the north coast and in the Hunter Region. As weather conditions continued to deteriorate, fire occurrence spread from the Queensland border to Bateman's Bay.

In excess of 800 fires started between December 27, 1993 and January 16, 1994. Over 800,000 hectares were burnt. All areas affected had previously been subject to wildfires, but never before had they burnt simultaneously.

Resources from across Australia and New Zealand were utilised, resulting in a firefighting effort larger than any previously experienced in the country. At the height of the exercise over 20,000 firefighters and other emergency service resources were deployed.

Four lives were lost and some 206 homes destroyed.

1997 - In 1997, 250 bush fires burnt over 500,000 hectares across 20 local government areas. Ten residential homes and 4 lives were lost.

2001/02 - The recent 'Christmas bushfires' experienced in NSW were devastating. The combination of extreme temperatures, strong winds and low humidity ensured that many of the 454 fires that raged across the state were among the fiercest and fastest moving ever witnessed in Australia.

There were 26 Bushfire Emergency declarations incorporating 48 local government areas. There were 41 major fires over the bushfire season between October and February that destroyed 109 residential homes, 33 other substantial buildings, 433 outbuildings, and 222 vehicles. Over 730,000 hectares were burnt.

The insurance damage was estimated at over \$75 million on over 3000 claims. The estimated cost of operations for NSW agencies was \$106 million. An estimated 20,000 properties were saved and there was no loss of life or serious injury to public or emergency personnel. A total of over 40,000 volunteers and over 7,000 salaried staff were involved from most States as well as New Zealand. ¹

2.4 The Consultation Process

During the preparation of the Impact Statement, Key Stakeholders nominated by the Rural Fire Service were consulted.

Information was obtained from personal interviews with the Key Stakeholders, augmented by reference to written submissions, or, at the Stakeholder's request, was based solely on their written submissions.

The Key Stakeholders represented were:

1. Environmental Protection Authority.
2. Local Government and Shires Associations.
3. National Parks and Wildlife Service.
4. Nature Conservation Council.
5. NSW Farmers.
6. NSW Fire Brigades.
7. NSW Rural Fire Service Association.
8. State Forests.
9. PlanningNSW.

¹ Rural Fire Service, Christmas 2001 Presentation

10. Office of Emergency Services.
11. NSW Department of Land and Water Conservation.
12. NSW Fisheries.

2.5 The Statutory Status and Expected Effects of the Regulation

2.5.1 Statutory Status

The previous Regulation was made in 1997. Under the *Subordinate Legislation Act 1989 (NSW)* that Regulation will be automatically repealed on 1 September, 2002. A new Regulation has now been drafted.

A Regulatory Impact Statement (RIS) has been prepared for this new Regulation for exposure to public review in accordance with the requirements of the *Subordinate Legislation Act 1989 (NSW)*. This RIS is reported herein.

Following public review of the new Regulation and of the RIS, any amendments to the proposed Regulation will be considered.

2.5.2 Expected Effects of the Regulation

In general, the proposed Regulation contains provisions associated with the prevention, control and management of bush and other rural fires and rural fire fighting infrastructure.

The following specifies the expected effects of the Regulation in outcome terms:

1. Reduction in the number of deaths from rural fires.
2. Reduction in the number of injuries due to rural fires, including Occupational Health and Safety (OH&S) costs.
3. Reduction in social costs following deaths and serious injuries resulting from rural fires.
4. Reduction in stock and property loss or damage due to bush fires.

These effects will be achieved by:

- Achieving a more coordinated approach to rural fire safety prevention and management.
- Authorising the Rural Fire Service to effect specified matters and establish systems associated with the prevention, control and management of rural fires.

In addition, the application of the principles of ecologically sustainable development required by the Rural Fires Act will be supported by the proposed Regulation.

2.6 Means and Processes of Administration and Enforcement of the Regulation

The Regulation will be administered through:

- The Rural Fire Service.
- The Commissioner as Head of the Rural Fire Service.
- Officers employed by the Rural Fire Service.
- Officers employed by Local Councils.
- Officers and members of Rural Fire Brigades.
- Other fire services and agencies with fire prevention/suppression responsibilities.

Enforcement of the provisions of the Regulation is supported by the imposition of monetary penalties as specified in the Regulation.

2.7 A Statement of the Objective of the Regulation

Based upon the above summary of the role and responsibilities of the Rural Fire Service, of rural fire control and management needs in New South Wales and of the content of the Regulation, it is clear that the single thrust of the Regulation is to assist in giving effect to means by which the Service may be able to prevent, manage and control rural fires in New South Wales.

The following is a statement of the Objectives of the Rural Fires Regulation 2002:

“To provide administrative support to assist in conserving, protecting and managing the safety of persons and property exposed to fires in rural fire districts in New South Wales”.

3. **IMPACT ANALYSIS OF THE REGULATION**

3.1 **Identification of Affected Parties**

The parties affected by the Regulation are described as follows:

- NSW Rural Fire Service.
- NSW Local Government Councils.
- Persons resident in New South Wales potentially exposed to the effects of rural fires.
- Prospective developers in certain cases.

3.2 **Recognition of the Need to Ensure that Costs and Benefits Considered are *Incremental***

As mentioned earlier, it is the impact of the Regulation which is the focus of this Impact Statement. The costs and benefits incurred by the community as a result of the making of the Regulation must be *incremental*. Thus the RIS can consider only those costs and benefits which result from changes brought about by the Regulation². Any costs and benefits that are created by the *Rural Fires Act* itself cannot be included in this Impact Statement. **It is important for the reader to keep this in mind.**

3.3 **General Method of Approach**

3.3.1 **Benefits are Reductions in Costs**

It is noted that in regard to the subject Regulation no *benefits* (such as increased revenue to an industry or other increases in cash flows) are directly created, rather, the intended beneficial impact on the community is through a **reduction in costs**.

Therefore it will be noted that all benefits discussed below are expressed as cost reductions.

3.3.2 **Expected Reduction in the Incidence and Scope of Bushfires**

It is expected that the Regulation will reduce the incidence and scope of bushfires from what would otherwise be the case. The Regulation achieves this by providing for the operation of the RFS, and prescribing matters and procedures for the prevention of fires. The measures for achieving this reduction are outlined in detail in Table 1 below.

² See Page 95 of the *Regulatory Impact Statement Manual* issued by the NSW Department of Business and Regional Development in October, 1993.

The recent amendments to the Regulation that are consequential to the amendments to the Act, as discussed in Section 1.6.1, are expected to further reduce the risk of the incidence and scope of bushfires by prescribing conditions for bushfire hazard reduction and certain bushfire prone developments. It is not feasible to attempt to disaggregate the effects of these amendments from the rest of the Regulation.

3.3.3 No Direct ‘Cause and Effect’ Relationship

It should also be noted that it is not possible to draw a direct “cause and effect” relationship between the proposed Regulation and any reduction in rural fires and hence costs. While it is expected that the proposed Regulation will reduce the incidence and scope of bushfires and related costs, no data is available that would enable the magnitude of that reduction to be estimated.

In view of this difficulty of identifying a “cause and effect” relationship the approach outlined below has been taken.

3.3.4 Outline of Approach

The approach taken in this Impact Statement is outlined in the Table below.

Table 1: Outline of Approach Taken

ALTERNATIVE	NATURE OF COSTS
Proposed Regulation	<p>Costs of Compliance. These are estimated below.</p> <p>Costs of Rural Fires. These are the costs that are currently incurred and are estimated below.</p>
<p>Alternative 1</p> <p>This Scenario assumes that no Regulation exists.</p> <p>This is the ‘do nothing’ assumption as specified in the <i>RIS Instruction Manual</i>.</p>	<p>Costs of Compliance. These are assumed to be zero.</p> <p>Costs of Rural Fires. These are the current costs being incurred plus an anticipated increase in these costs. This increase in costs cannot be determined.</p>
Measures of Worth Used	<p>Net Present Value (NPV) of the proposed Regulation <i>incremental</i> to Alternative 1.</p> <p>‘Break-Even’ Analysis to determine the dollar value of the reduction in rural fires that must occur to balance the increase in costs of the proposed Regulation incremental to the costs of having no Regulation (that is, incremental to Alternative 1).</p>

3.4 Exclusion of Transfer Costs

It should be noted also that the *Regulatory Impact Statement Manual* cautions against including 'transfer items' in the costs and benefits of a Regulation³. Transfer items are monetary costs and benefits which flow from one group in the community to another without changing net economic benefit. Examples of transfer items given in the *Manual* are direct and indirect taxes, subsidies, bounties and fines imposed for non-compliance.

Thus these types of cash flows have not been included in the costs and benefits of the subject Regulation.

3.5 Consideration of Distributional Effects

The *Regulatory Impact Statement Manual* also makes reference to considering 'distributional' effects in assessing the impact of a regulation. A distributional effect occurs when, for example, monetary benefits flowing from a regulation are unevenly distributed among the community.

Persons who are on relatively low incomes would gain greater relative economic benefit from a particular dollar value of benefits than would persons on higher incomes and who gained the same dollar value.

No distributional effects were identified.

3.6 Summary of the Nature of Costs and Benefits

The nature of the costs and benefits of the various clauses of the Regulation are summarised below. A \$ sign indicates that the cost or benefit is potentially quantifiable in monetary terms. It does not mean necessarily that data is readily available to permit such quantification. An absence of the \$ sign indicates that the cost and benefits are of a qualitative nature. Shaded cells indicate that the Clause is of a machinery nature and does require impact assessment.

CLAUSE (Short Description)	NATURE OF COST	NATURE OF BENEFIT
1. Name		
2. Commencement		
3. Definitions		
4. Notes		

³ See the *Regulatory Impact Statement Manual*, page 94.

CLAUSE (Short Description)	NATURE OF COST	NATURE OF BENEFIT
5. Constitution for RFB	Human resources consumed to develop, record and update the Constitution (\$).	Create certain knowledge of the organisation structure and management responsibilities of each RFB. Commonality of structure and responsibilities of RFBs State-wide.
6. Recording of Members of RFB	Human resources consumed to keep the records in the required form (\$).	Create certain knowledge of the number of fire fighters available in each RFB. Ensure capability and capacity of registered fire fighters.
7. Probationary Membership	Cost of Assessment of Competency (\$)	Ensure capability and capacity of registered fire fighters. Support OH&S of fire fighters. Ensure a more effective level of fire protection.
8. Removal from Membership	Human resources consumed to assess status and fitness of fire fighters (\$).	Ensure capability and capacity of registered fire fighters. Provide for removal of members from register. Support OH&S of fire fighters. Ensure a more effective level of fire protection.
9. Appeals relating to Membership	Human resources consumed to hear appeals (\$)	Ensure capability and capacity of registered fire fighters. Provide for natural justice requirements.
10. Disciplinary Action	Human resources consumed to assess breaches of discipline and determine appropriate disciplinary action (\$).	Ensure capability and capacity of registered fire fighters. Provide for natural justice requirements. Ensure safety of employees and volunteers.
11. Appeals relating to Disciplinary Action	Human resources consumed to hear appeals (\$)	Ensure capability and capacity of registered fire fighters.

CLAUSE (Short Description)	NATURE OF COST	NATURE OF BENEFIT
12. Incident Reports	Human resources consumed to prepare reports (\$)	Record details of incidents to assist coronial and other inquiries Provide data for continuous improvement of fire-fighting capability. Record details of incidents to learn from review of RFB performance so as to improve fire-fighting capability
13. Period for compliance with notice to form or disband RFB		
14. Constitution of Bush Fire Management Committees	None	Supports independence of Committees
15. Eligibility for Membership	Human resources consumed to prepare, assess and record membership (\$)	Supports the quality of management and of advice available to Committees. Ensures capability, representativeness and capacity of Committees.
16. Functions	Human resources of Committee members consumed to perform specified Committee functions (\$)	Supports the quality of management and advice available to Committees. Ensures competency of Committees.
17. Procedures for meetings of Bush Fire Management Committees	Human resources consumed to perform Committee functions (\$)	Supports the quality of management and advice available to Committees. Ensures capability and capacity of Committees.
18. Chairperson	As above	Supports the quality of management and advice available to Committees. Ensures capability and capacity of Committees.
19. Executive Officer	As above	Provides clarity for the appointment of Executive Officers to Bush Fire Management Committees

CLAUSE (Short Description)	NATURE OF COST	NATURE OF BENEFIT
20. Burning to demolish buildings	Costs of assessing situation and issuing a permit by the local authority (\$) Costs of detecting non-compliance (\$) Costs of complying with permit conditions (\$)	Prevention of fires Applies penalty for non-compliance
21. Burning to destroy sawmill waste materials	Costs of assessing situation and issuing a permit by the local authority (\$) Costs of destroying waste under specified conditions (\$) Costs of detecting non-compliance (\$)	Prevention of fires Applies penalty for non-compliance
22. Use of Spark Arresters	Cost of supply, fitting & maintenance of arresters (\$) Costs of detecting non-compliance (\$)	Prevention of fires Applies penalty for non-compliance
23. Other safety requirements	Cost of maintaining machinery and other equipment in a good and serviceable condition (\$) Cost of supply, fitting & maintenance of prescribed safety equipment (\$) Costs of detecting non-compliance (\$)	Prevention of fires Applies penalty for non-compliance
24. Roadside Fire Protection	Nil	Prevention of fires
25. Application		
26. Lighting fires for cooking	Costs of clearing ground and constructing fire place (\$) Costs of detecting non-compliance (\$)	Prevention of fires Applies penalty for non-compliance
27. Burning at Garbage Depots	Costs of clearing ground (\$) Costs of detecting non-compliance (\$)	Prevention of fires Applies penalty for non-compliance

CLAUSE (Short Description)	NATURE OF COST	NATURE OF BENEFIT
28. Lighting Fires to Produce Charcoal	Costs of clearing ground and complying with conditions of permit (\$) Costs of issuing a permit by the local authority (\$) Costs of detecting non-compliance (\$)	Prevention of fires Applies penalty for non-compliance
29. Offence to Light, etc. Tobacco Products	Costs of detecting non-compliance (\$)	Prevention of fires Applies penalty for non-compliance
30. Public Notice of Draft Bush Fire Management Plans	Costs of display of Plans (\$)	Prevention of fires
31. Destruction of Notices	Costs of detecting non-compliance (\$)	Prevention of fires Applies penalty
32. Hazard Reduction Work by Local Authorities	Costs of delivering Notices (\$)	Prevention of fires
33. Hazard Reduction Work in Default	Costs of delivering Notices (\$)	Prevention of fires
34. Notice of Intention to Burn off, etc.	Costs of delivering Notices (\$)	Prevention of fires
35. Notice of Issue of Fire Permit	Costs of delivering Notices (\$)	Prevention of fires
36. Notice to Public Authority not to Light Fires etc	Costs of delivering Notices in prescribed manner (\$)	Prevention of fires
37. Notice of Fire Prohibition etc		
38. Persons to whom notice of bushfire hazard reduction work must be given		
39. Giving of Notices	Costs of delivering Notices in prescribed manner (\$)	Prevention of fires
40. Apparel, Emblems and Insignia	Cost of enforcing	Makes certain that the authority of Members is not mis-represented. Prevention of fires Applies penalty.

CLAUSE (Short Description)	NATURE OF COST	NATURE OF BENEFIT
41. Bravery and Other Awards	Costs of commendations and awards. (\$) Cost of maintaining the Register (\$)	Improves quality of fire fighting through encouraging striving for success.
42. Voluntary Work by Rural Fire Brigades		
43. Reduction of Fire Hazards on Managed Land		
44. Conditions of Fire Permit	Costs of at least one person being present at the site of the fire (\$)	Prevention of fires
45. Excluded Land	Nil	Protection of threatened species.
46. Application for bush fire safety authority	Costs of familiarisation with <i>Planning for Bushfire Protection Guidelines</i> (\$) Costs of preparing information including expert advice (\$) Costs of assessing applications (\$)	Ensures bush fire safety of certain developments
47. Special fire protection purposes	Costs relate to clause 46	Ensures bush fire safety of dwellings on land within 100 metres of managed land
48. Application for bushfire hazard reduction certificate	Costs of preparing and submitting information prescribed (\$) Costs of assessing applications (\$)	Fire prevention and safety of bush fire hazard reduction works
49. Penalty Notices	Cost of enforcing	Prevention of fires
50. Savings		

3.7 Categories of Benefits and Costs

In terms of the *Regulatory Impact Statement Instruction Manual* the benefits of the Regulation fall into the following categories:

- Direct Benefits/Costs
 - Tangible: Direct benefits/costs which can be expressed in monetary terms,
 - Intangible: Direct benefits/costs which are qualitative.

- Indirect Benefits/Costs
 - Tangible: Indirect benefits/costs which can be expressed in monetary terms,
 - Intangible: Indirect benefits/costs which are qualitative.

Each of these categories of benefits and costs is described below.

3.8 Benefits of the Regulation

It is noted that in regard to the subject Regulation no benefits (such as increased revenue to an industry or other increases in cash flows) are directly created, rather, the impact on the community is through a **reduction in costs**.

Therefore in this RIS it will be noted that all benefits have been set to zero. The Regulation does, of course, create “benefits” through a reduction in costs and these are revealed in the Net Present Value of the proposed Regulation which is given in **Section 5** below.

Also presented in **Section 5** are the results of the ‘Break-Even’ Analysis that measures the reduction in the costs of rural fires that must result from the introduction of the proposed Regulation.

3.9 Costs of the Regulation

3.9.1 Tangible Direct Costs

The following are the identified cost elements applying to the proposed Regulation.

3.9.1(a) Costs of Compliance

The elements comprising the costs of compliance are shown in the Spreadsheet at **Attachment A**.

These costs comprise:

1. Costs of human resources.
2. Costs of equipment specified by the proposed Regulation to be used.
3. Costs of monitoring compliance.

- **Costs of Human Resources**

These elements are shown in the Spreadsheet at **Attachment A** page 2.

Most of the human resources costs are borne by the RFS and Rural Fire Brigades. The RFS has fire management responsibilities in 143 Local Government Areas. It is noted

that 'opportunity costing' ⁴ has been used to estimate the economic costs of human resources deployed by unpaid volunteers. The opportunity cost used was the average male wage in NSW in February, 2002, of \$834 per week ⁵ multiplied by 52 weeks for a total cost of \$43,368 per annum.

Some human resources costs are borne by Local Government Authorities, members of Bush Fire Management Committees, and those people in the community who require a permit or need to comply with certain conditions relating to fire safety. These costs are generally relatively minor. For example, there are on average approximately 12 members of a Bush Fire Management Committee drawn from a cross-section of society as prescribed by the Regulation. They meet on average twice a year for half a day to attend to the functions prescribed in the Regulation at an estimated human resource cost of \$338,270.

Also, in line with the recent amendments, prospective developers, in certain cases, must apply for a Bush Fire Safety Authority in accordance with section 100B (4) of the Act. Clause 46 of the Regulation prescribes the required content of such applications and in so doing prescribes certain conditions and provisions of affected developments. The required information and design considerations are relatively detailed and could impose significant additional costs to the development application process and the costs of the development. However, to a large extent, the consideration of bush fire safety matters in the relevant developments is already undertaken. The Regulation merely prescribes the matters and procedures in detail and formalises the requirements and as such serves to expedite the application process. The RFS estimates that it will cost developers about \$10,000 to have an application assessed but that without the Regulation, the costs could in fact be higher due to delays.

The human resource costs incurred in preparing and submitting the information will depend on the number of affected development applications submitted. The costs incurred in complying with the requirements will depend again on the number of developments but also on the specific alterations required. It is not possible to foresee and estimate these costs due to the lack of data but it is expected that the Regulation will not impose significant incremental costs.

⁴ 'Opportunity cost' is defined as the benefit foregone, or the opportunity lost, by not using a resource in its next best alternative use. This definition is based on the premise that resources are not unlimited and consequently there may be a sacrifice to society when resources are applied to one use rather than another. In the case herein it is assumed that volunteers would be gainfully employed in other productive capacities if they were not training or fighting fires.

⁵ ABS data.

The total costs of human resources are estimated to be \$3,880,647 per annum. This compares to total employee related expenses for the RFS in 2000/01 of \$11,182,000 but includes human resource costs of Fire Brigades and others.

- **Costs of Spark Arresters**

The costs of spark arresters have been set to zero. The reason for this is that very few significant steam-powered machines remain in the State. There are a few steam-powered locomotives operated by steam heritage associations, all of which are believed to have spark arresters fitted.

State Forests have advised that no steam-powered forestry machinery is in operation.

- **Costs of Equipment**

Equipment costs are assumed to be the costs of supply and maintenance of fire extinguishers and knapsack sprays required to be carried when using farm and other machinery as specified. It is assumed that the initial capital outlay in obtaining this equipment has already been borne and that these costs are therefore only the maintenance costs are incurred.

It is estimated that the annual maintenance costs are \$658,315.

These elements are shown in the Spreadsheet at **Attachment A** page 4.

- **Costs of Monitoring Compliance**

The costs of monitoring compliance have been estimated to be \$3,100,812 per annum. These elements are shown in the Spreadsheet at **Attachment A** page 5.

3.9.1(b) Summary of Compliance Costs

The costs of compliance with the proposed Regulation are summarised below:

Table 2: Compliance Cost Summary of Regulation

COST ELEMENT	
Costs of Human Resources	\$3,880,647
Costs of Equipment Required	\$658,315
Costs of Monitoring Compliance	\$3,100,812
Costs to prospective developers	Unable to estimate
TOTAL COSTS OF COMPLIANCE:	\$7,639,774

A sensitivity and break-even analysis of the Net present Value of the Regulation to changes in the level of compliance costs has been conducted, the results of which are shown in Section 5.4.

3.9.1(c) Costs related to workplace safety

The Regulation prescribes many matters related to employee and volunteer conduct that serve to ensure workplace safety. These provisions are outlined in Table 1 above. Due to a lack of data the reductions in the costs related to workplace safety, such as accidents and injuries, have not been estimated here. The RFS advises that workplace safety incidents are rare and so the costs, and therefore cost savings, are expected to be minor.

3.9.1(d) Costs of Bushfires

A list of major bush fires that have occurred in NSW since 1964/65 and the qualitative and quantitative impact of these was listed above in Section 2.3. The impact of these fires included loss of life, loss of live stock, loss of individual buildings and, indeed, the loss of whole villages.

As noted in Section 3.3.2 above, it is not possible to draw any direct cause and effect relationship between the Regulation and bush fire incidence and scope. Bush fires occur randomly and cannot be predicted. Notwithstanding this, the recent Christmas bush fires added weight to the consensus that improvements in firefighting and prevention have occurred. No lives were lost or serious injuries sustained, a dramatic improvement over all other major bush fire incidents since 1964. While there was very significant property damage and damage to livestock and the natural environment, these costs may have been much higher in the absence of the Regulation.

- Fatalities

The total number of lives lost as recorded above in these fires was 32 as shown in the following Table.

Table 3: Number of Lives Lost in NSW Bush Fires Since 1964/65

DATE	INCIDENT	LIVES LOST
1964/65	Major fires occurred in the Snowy Mountains, Southern Tablelands and outer metropolitan area.	3
1968/69	Widespread damage occurred over much of the eastern part of the State.	3
1980/81	In this year 887,000 hectares burnt across the State and 8 lives were lost including 5 losses during the Waterfall fires which occurred on 3/11/80.	8
1982/83	337 hectares were burnt in the Royal National Park (Gray's Point) fires.	3

DATE	INCIDENT	LIVES LOST
1984/85	This was the worst fire season for ten years in the grassed western areas of the State. The largest fire was at Cobar in mid-January with 516,000 hectares burnt.	4
1987/88	Over 115,000 hectares were burnt in the Bethungra and Warurillah/Yanco fires.	3
1993/94	In excess of 800 fires started between December 27, 1993 and January 16, 1994. Over 800,000 hectares were burnt.	4
1997	250 bush fires burnt over 500,000 hectares across 20 local government areas. Ten residential homes and 4 lives were lost.	4
2001/02	The recent 'Christmas' fires were some of the worst experienced. 109 homes were destroyed and 730,000 ha were burnt but no lives were lost and there were no serious injuries.	0
TOTAL LIVES LOST:		32
AVERAGE LIVES LOST PER YEAR (1964-1997):		1
AVERAGE LIVES LOST PER YEAR (1997 – 2002):		0

While recognising that average statistics are of limited applicability to bush fires, the experience of bush fires in NSW since 1964 indicates that major bush fire incidents occur approximately once every four years. There were an average of 4 deaths during the major bush fires between 1964/65 and 1997 such that there was an average of one fatality due to bush fires per year. Since the current Regulation was introduced, there has been one major bush fire incident during which there were no deaths or serious injuries incurred by the public or emergency personnel.

It is reasonably assumed that this reduction in the risk of fatalities due to major bush fires is, at least in part, a result of the current Regulation. Accordingly, this reduction in the risk of fatalities due to bush fires is expected to be at least maintained at this level by the proposed Regulation. It is therefore assumed that the Regulation will save one death due to bushfires per year.

- Property damage

The recent bush fires in 2000/01 caused estimated costs to property of \$75 million. Similarly, the costs of operations to NSW agencies was \$106 million.

Estimates of the annual cost of property damage caused by rural fires based on insurance claims are given in the Table below ⁶:

⁶ Source: Insurance Council of Australia, 2002, *Average NSW 1992-2001, **Average NSW 1994-2000

Table 4: Annual Average Insurance Costs for Rural Fires

ASSETS	COST
Domestic*	\$74,529,582
Commercial **	\$23,751,429
TOTAL:	\$98,281,010

From this data it is assumed that the average costs of rural fires in NSW per annum are some \$98,000,000. The data is not detailed enough to analyse whether and by how much these costs have declined since the introduction of the current Regulation in 1997.

As mentioned earlier, many factors influence the incidence and scope of fires such that it is not possible to draw any cause and effect relationship between the Regulation and the damage caused by fires. It is expected that the incidence of property loss due to major bush fires has been reduced by the current Regulation and will be further reduced by the proposed Regulation.

It is assumed in this RIS that damage to property caused by rural fires will be 10% less than current averages, or \$88,452,909. A sensitivity and break-even analysis is conducted in Section 5.4.1 on Page 42 in regards to this assumed amount of savings in property damage.

- Costs of stock losses

In Section 2.3 above 40,000 stock were stated to have been lost from the fires of 1984/85. Over 7,000 were lost in the recent 2001/02 bush fires.

No reliable data is available that would enable an estimate to be made of the dollar value of stock losses resulting from bush fires distinct from total property damage. However, the Regulation is expected to reduce the incidence and scope of bushfires and so at least maintain the risk of stock loss at current levels.

3.9.2 Intangible: Direct Costs Which Are Qualitative

3.9.2(a) Social Costs of Bushfires

Bush fires impose additional social costs on society. Bush fires can be a traumatic experience having a significant impact on family and friends of persons killed.

Also, significant social and economic costs are incurred due to persons being injured and requiring medical assistance, (including OH&S costs), while there is also a social impact on family and friends of persons injured, families left homeless and on the wider community.

Social losses include:

- Losses to family and community which result from accident victims being unable to perform their normal activities in these areas.
- In addition, costs resulting from pain and suffering are also incurred.

Estimates have been made of the costs to family and community of industrial fatalities and severe injuries. These estimates have been made as a result of research conducted by the Bureau of Transport and Communications Economics ⁷.

These estimates (in 1985 dollar values) are:

- \$126,641 for a fatality, and
- \$1,144 for a severe accident (defined as an accident that was severe but not life threatening).

Adjusting these values to 2001 dollars, the estimates become:

- \$193,708 for a fatality, and
- \$1,750 for a severe accident.

It is expected that the incidence and scope of bushfires, and therefore the related social costs, will be at least maintained at current levels by the Regulation and possibly reduced. As mentioned above, there have been no fatalities due to bush fires since the introduction of the current Regulation in 1997 compared to an average of one per year before the introduction of the Regulation. It is assumed that the Regulation will save one death per year. Data is not available on the number or nature of injuries that would enable an estimate to be made as to the current social costs of injuries due to bushfires.

Also, there is a social cost incurred in excess of the economic cost of property damage where there is a destruction of homes and communities.

3.9.2(b) Environmental Costs

Bush fires can result in severe environmental damage. National Parks and State Forests are often razed and native fauna and habitats damaged. The 2001/02 fires were particularly impacted upon the koala population with experts saying it could take up to 15 years to rebuild some population groups ⁸. Large parts of the Royal National Park

⁷ As with the estimation of the economic costs of the loss of a human life, there have been a large number of academic studies into the estimation of the social costs of death and injury. The results used in this Impact Statement are from the paper titled "*Cost of Road Accidents in Australia*", Steadman and Bryan, Occasional Paper 91, Bureau of Transport and Communication Economics, 1988.

⁸ http://www.firehouse.com/wildfires/2002/1/4_APaus.html

was also destroyed. Environmental costs of bush fires also take the form of air pollution with smoke and ash filling the air and harming the atmosphere.

The risk of the incidence and scope of bush fires is expected to be at least maintained at the current levels by the proposed Regulation and possibly reduced by the recent amendments and continuing efforts. While it is not possible to estimate the average annual environmental costs of bush fires, it is expected these costs will be contained and possibly reduced by the Regulation.

It is noted that the Act addresses the need for its powers in respect of prevention, mitigation and suppression of rural fires, the coordination of rural fire fighting and the protection of persons and property, all to be implemented within the context of ecologically sustainable development (ESD). This extends to the operation of the Regulation.

The proposed Regulation supports the requirement that the NSW Rural Fire Service has regard to the principles of ecologically sustainable development when carrying out certain activities associated with rural fire control, prevention and management. Clause 45 of the Regulation excludes land that is 'the critical habitat of endangered species, population or ecological community' from the new streamlined approval process for bush fire hazard reduction work ordained under the Act. This reduces the risk of the impact of fire hazard reduction works on the environment, although again, it is not possible to quantify the resultant reduction in environmental costs.

3.9.3 Tangible: Indirect Costs Which Can Be Expressed In Monetary Terms

- **Cost of Workers' Compensation Insurance**

One human resource cost which is not directly related to the Regulation is the cost of volunteers. The major cost in this regard is the cost of workers' compensation insurance which must be paid for all members on the register. In 2000/01, workers compensation insurance expenses for the RFS were \$2,626,000⁹. It is noted that this cost is not incurred as a result of the Regulation but it is included in this analysis because the Regulation effects the level of this cost. The Regulation enables names of inactive members to be removed from the register and thus reduces these costs. The proposed Regulation includes an amendment to further facilitate this. The RFS expects that the new amendment will allow some 15% of members who are inactive to be removed from the register thus reducing workers' compensation insurance costs by a corresponding 15% to \$2,232,100.

⁹ NSW RFS Annual Report 2000/02, p37, 2(f)

3.9.4 Intangible: Indirect Costs Which Are Qualitative

There are no intangible indirect costs.

3.10 Present Value of Costs of the Proposed Regulation

The Present Value of Costs of the Proposed Regulation is over \$403 million at a 7% discount rate over 5 years.

See **Attachment A** page 1 for the spreadsheet showing the calculation of the Present Value of Costs.

4. IMPACT ANALYSIS OF THE ALTERNATIVES

4.1 Alternatives to the Proposed Regulation Considered

The following Alternatives were also considered during the preparation of this Impact Statement but rejected for the reasons given:

- Self Regulation.
- ‘Do Nothing’ (described as Alternative 1).

These two alternatives are assessed below.

4.1.1 Self Regulation

To adopt ‘Self Regulation’ would also result in a significant increase in catastrophic risk.

Experience has shown that, because of the high risk associated with bush fires together with the large range of participants at various stages of maturity, self-regulation programs are ineffective in preventing disasters leading to fatalities.

Legislation is required to provide the Service with authority over safety matters in prevention and management of rural bush fires.

The alternative of self-regulation was considered but was rejected as not being effective in meeting the Objectives of the proposed Regulation.

4.1.2 Alternative 1

4.1.2(a) General

The spirit and letter of the *Subordinate Legislation Act* is that a statutory rule should not be imposed on the community unless it can be shown that the benefits bestowed by the rule are greater than the costs. These benefits are *absolute* in the sense that, for example, it is not sufficient to show that the costs of a proposed statutory rule are simply less than the costs imposed by an existing rule that is to be replaced.

The question to be answered is whether a proposed rule is to be imposed at all, not whether the rule creates a greater net benefit than does the one that it is to replace.

4.1.2(b) Definition

Thus the magnitude of the cost-benefit of a proposed statutory rule is incremental to ‘doing nothing’ and, consistent with the above, the *Subordinate Legislation Act* and the *Manual* define the ‘do nothing’ option as taking no regulatory action at all (see page 16 of the *Manual*).

In terms of the Regulatory Impact Statement Instruction Manual **all costs and benefits of the Regulation and any other Alternatives are incremental to Alternative 1.**

4.1.2(c) The Proposed Regulation is not Made

Alternative 1 assumes that no action is taken to replace the existing Regulation and in terms of the *Subordinate Legislation Act 1989 (NSW)*, the existing Regulation would be automatically repealed on 1 September, 2002.

4.1.2(d) Current Legislation

It should be noted also that there is existing Legislation that makes provision for certain matters associated with the prevention, control and management of rural fires in NSW. Thus some of the requirements, including, for example, the creation of Rural Fire Brigades and their associated costs already apply.

The costs of implementing the proposed Regulation will not, therefore, commence from a zero base.

4.2 Benefits of Alternative 1

As with the proposed Regulation, no benefits of Alternative 1 are identified. The benefits relate to reductions in costs, as discussed in Section 3.8 on Page 27.

4.3 Costs of Alternative 1

4.3.1 Tangible: Direct Costs Which Can Be Expressed In Monetary Terms

4.3.1(a) Costs of compliance

The human resources costs of compliance and administration that relate specifically to the Regulation no longer apply in Alternative 1. These costs are therefore assumed to be zero under Alternative 1. In actual fact the costs of administration could be significantly increased in the absence of the Regulation because procedures and administrative matters are no longer laid down in legislation.

Under Alternative 1 there is also no requirement to monitor compliance or maintain equipment. The following summarises the compliance cost elements applying to Alternative 1.

Table 5: Compliance Costs Summary of Alternative 1

COSTS	Recurrent
Cost of Human Resources	\$0
Costs of Equipment Required by the Proposed Regulation	\$0

Cost of Monitoring Compliance	\$0
TOTAL:	\$0

4.3.1(b) Costs of Bushfires

- Fatalities

As noted in Section 3.3.2 and 3.9.1 (c) on Page 30 above, it is not possible to draw any direct cause and effect relationship between the Regulation and bush fire incidence and scope. Although averages are of limited applicability to bush fires, the experience of bush fires in NSW since 1964 indicates that major bush fire incidents occur approximately once every four years.

The current Regulation was introduced in 1997. Between 1964 and 1997, these incidents resulted in an average of four fatalities corresponding to an average of one fatality per year caused by bush fires. It is assumed in the absence of the Regulation that this level of deaths would once again prevail. The economic cost of a fatality has been estimated to be \$850,000¹⁰. We can assume, therefore that the annual economic cost of death in NSW due to bush fires between 1964/65 and 1997 was \$850,000.

- Property damage

As per Section 3.9.1(d) on Page 30, it is assumed that the average costs of property damage caused by rural fires in NSW per annum are some \$98,281,010. These costs are not expected to be reduced under Alternative 1.

- Costs of stock losses

Due to a lack of data, it is not possible to estimate the costs of losses of farm animals due to bushfires.

A Break-Even Analysis has been undertaken to assess the reduction in property damage necessary to achieve at least a zero NPV the results of which are given below in **Section 5.4**.

¹⁰ There have been a large number of academic studies into the estimation of the economic value of a human life, each with widely differing results. The value adopted in this Impact Statement is from studies by the Bureau of Transport and Communication Economics, a study entitled '*The Extent of Reductions in the Number and Severity of Motor Vehicle Collisions with Power Poles Following an Undergrounding of Cables, 1997*'. The estimated cost of injuries is also taken from this study.

4.3.2 Intangible: Direct Costs Which Are Qualitative

4.3.2(a) Social costs of Bushfires

As discussed in Section 3.9.2(a) on Page 32, bush fires impose additional social costs on society.

Estimates have been made of the costs to family and community of industrial fatalities and severe injuries. These estimates have been made as a result of research conducted by the Bureau of Transport and Communications Economics ¹¹.

These estimates (in 1985 dollar values) are:

- \$126,641 for a fatality, and
- \$1,144 for a severe accident (defined as an accident that was severe but not life threatening).

Adjusting these values to 2001 dollars, the estimates become:

- \$193,708 for a fatality, and
- \$1,750 for a severe accident.

Assuming that there would be an average of one death per year due to bushfires under Alternative 1, the social cost of fatalities is \$193,708 per year. Rather, it is assumed that there would be one more death caused by rural fires under Alternative 1 than under the Regulation.

Data is not available on the number or nature of injuries that would enable an estimate to be made of the social costs of injuries due to bushfires under Alternative 1. Data is also not available to estimate the social cost incurred where there is a destruction of homes and communities. It is expected that these costs would be higher under Alternative 1 than under the Regulation.

4.3.2(b) Environmental Costs

As discussed in Section 3.9.2(b) on Page 33, bush fires can result in severe environmental damage. Under Alternative 1, the environmental costs of bushfires are expected to increase from current levels in line with the increase in the risk of the

¹¹ As with the estimation of the economic costs of the loss of a human life, there have been a large number of academic studies into the estimation of the social costs of death and injury. The results used in this Impact Statement are from the paper titled "*Cost of Road Accidents in Australia*", Steadman and Bryan, Occasional Paper 91, Bureau of Transport and Communication Economics, 1988.

incidence and scope of bush fires. However, data and studies are not available that would enable the estimation of the environmental costs of bush fires.

A summary of the costs of bushfires under Alternative 1 is shown in the Table below.

Table 6: Annual Costs of Bushfires - Alternative 1

Cost Item	\$ Value
Cost of fatalities	\$ 850,000
Social Cost of Fatalities	\$193,708
Property Damage	\$98,281,010
Total	\$99,324,718

4.3.3 Tangible: Indirect Costs Which Can Be Expressed In Monetary Terms

Workers' compensation insurance is still payable in the absence of the Regulation. It is assumed that workers' compensation insurance would continue at the 2000/01 level although the absence of the Regulation removes many of the procedures for enrolling and de-rolling volunteers. Workers' compensation insurance costs under Alternative 1 are therefore \$2,626,000.

4.3.4 Intangible: Indirect Costs Which Are Qualitative

There are no intangible indirect costs of Alternative 1.

4.4 Present Value of Costs of Alternative 1

The Present Value of Costs of Alternative 1 is approximately \$418 million at a 7% discount rate over 5 years.

See **Attachment A** for the spreadsheet showing the calculation of the present value of costs.

5. EVALUATION OF RELATIVE IMPACTS

This Section provides an overall comparison and evaluation of relative net costs/benefits of the Regulation and its Alternative.

5.1 Summary of Costs of the Proposed Regulation

The following Table summarises the costs of the proposed Regulation and the Alternative.

Table 7: Costs of the Regulation and Alternative 1

COST ELEMENT	Proposed Regulation	Alternative 1
Compliance Costs:		
Costs of Human Resources	\$3,880,647	\$0
Costs to prospective developers	\$0	\$0
Workers' Compensation Insurance	\$2,232,100	\$2,626,000
Costs of Equipment Required	\$658,315	\$0
Costs of Monitoring Compliance	\$3,100,812	\$0
Costs of Bushfires:		
Property Damage	\$88,452,909	\$98,281,010
Cost of Fatalities	\$0	\$850,000
Social Cost of Fatalities	\$0	\$193,708
Environmental costs	Unable to estimate	Unable to estimate
TOTAL COSTS:	\$98,324,783	\$101,950,718

5.2 Present Value

The following Table shows the Present Values of Costs of the Regulation and Alternative 1 over a 5 year period at a discount rate of 7%:

Table 8: Present Value of Costs of Proposed Regulation

ALTERNATIVE	PRESENT VALUE OF COSTS
Proposed Regulation	\$403,151,024
Alternative 1	\$418,018,073
Incremental NPV	\$14,867,049

5.3 Net Present Value

The Net Present Value of the Regulation incremental to the Alternative 1 over a 5 year period at a discount rate of 7% is \$14,867,049.

5.4 Sensitivity and Break-Even Analysis

5.4.1 Sensitivity of NPV to the costs of Property Damage

The above analysis assumes that the Regulation will reduce the costs of property damage by 10%. The Break-Even Analysis identifies the reduction in the costs of property damage due to bush fires needed for the NPV of the Regulation to be equal to that of Alternative 1. The results of the Breakeven Analysis are given in the Table below.

Table 9: Change in Incremental NPV with a change in the Costs of Property Damage

Percentage Costs	Incremental NPV
100%	(\$25,430)
93.7%	(\$0)
90%	\$14,867
80%	\$55,164
70%	\$95,461

These results show that for the proposed Regulation to have a present value of costs equal to Alternative 1, a reduction in costs of only 6.3% to 93.7% of the costs under Alternative 1 is required. The results are very sensitive to the estimated reduction in damage costs.

It is believed that this reduction in costs will be achieved due to improvements in the capacity of the Rural Fire Service to prevent and control rural fires through the proposed Regulation, reducing costs associated with loss of property (and life). Thus, the Break-Even Analysis demonstrates that the proposed Regulation is preferable to maintaining the current Regulation.

See **Attachment A** page 3 for the spreadsheet that calculates the Break-Even results.

5.4.2 Sensitivity of NPV to Compliance Costs

A Sensitivity Analysis has been conducted to determine the impact on the NPV of the proposed Regulation with variations in the costs of compliance and the costs of monitoring compliance.

Table 10 : Sensitivity of Incremental NPV to Estimated Annual Compliance Costs

Percentage of current estimated level	Incremental NPV
80%	\$20,715
100%	\$14,867
150.8%	(\$0)
170%	(\$5,601)
200%	(\$14,374)

The Analysis shows that even if the compliance *costs* rise by 151% to \$11.5 from \$7.6 million the NPV of the Regulation is still preferred.

In both cases there are significant qualitative benefits associated with the proposed Regulation as summarised in Section 3.9.2 above.

5.4.3 Summary

The Sensitivity Analysis indicates a moderate degree of sensitivity to compliance costs. Thus care needs to be taken by the Rural Fire Service and Rural Fire Brigades to minimise human resource costs by maximising resource productivity through continuous improvements in service delivery systems, in particular in the areas of planning and fire fighter training.

The Sensitivity Analysis also indicates a high degree of sensitivity to the costs of property damage due to bush fires. It is precisely a reduction in this risk and the risk of fatalities and injuries that is the objective of the Regulation.

5.5 Discussion

The proposed Regulation has a Present Value of Costs of \$403 million over a 5 year period at a 7% discount rate, whereas Alternative 1 has a Present Value of Costs of \$418 million, a difference of approximately \$15 million. This analysis does not include estimates of the reduction in environmental costs and the costs of stock losses expected under the Regulation.

To adopt Alternative 1 would result in a significant increase in risk associated with rural bush fires. In particular, there would be an increase in:

1. The incidence and scope of rural fires.
2. The number of deaths from rural fires.
3. The number of injuries due to rural fires, including Occupational Health and Safety (OH&S) factors.

4. Social costs following deaths and serious injuries resulting from rural fires.
5. Stock and property loss or damage.

Also, the Act specifies that certain activities associated with rural fire control, prevention and management be carried out having regard for the principles of ecologically sustainable development. These principles would not be supported by Alternative 1.

If the Regulation reduces property damage by 6.3% and saves one fatality over what would occur in the absence of the Regulation (Alternative 1), it has a lower Present Value of costs and is the preferred option. Given the content of the Regulation, it is considered reasonable to assume that the Regulation will reduce costs by this amount.

For these reasons Alternative 1 is rejected.

5.5.1 Other Alternative Considered

The alternative of self-regulation was considered as not effective in meeting the Objectives established.

5.6 Justification for Selecting or Rejecting the Regulation

The Regulation is effective in meeting its Objective.

The Net Present Value of Costs of the proposed Regulation is \$14,867,049 over 5 years at a discount rate of 7%.

This positive NPV is due to an anticipated reduction in:

1. The number of deaths from rural fires.
2. Property loss or damage due to rural fires.

It is also anticipated that the Regulation will result in a significant reduction in economic and social costs due to:

3. Reduced number of injuries due to rural fires, including Occupational Health and Safety (OH&S) factors.
4. Reduced social costs following serious injuries, on families left homeless and on the wider community resulting from rural fires.
5. Stock losses.

Social losses reduced include:

- Losses to family and community which result from accident victims being unable to perform their normal activities.

- Costs resulting from pain and suffering.

The Regulation will support the Act's objectives in implementing its powers in respect of prevention, mitigation and suppression of rural fires, the coordination of rural fire fighting and the protection of persons and property within the context of ecologically sustainable development.

An indirect benefit of the Regulation, therefore, is the support it gives the Act to function effectively and thus its indirect support for environmental protection and for ecologically sustainable development. In particular, the proposed Regulation supports the Act in having regard for the principles of ecologically sustainable development when certain activities associated with rural fire control, prevention and management are carried out.

These principles would not be supported by Alternative 1.

5.7 Recommendation

For the reasons given above, it is recommended that the proposed Regulation be adopted.

6. METHODOLOGY

6.1 Description of the Methods Used and the Assumptions Adopted in the Analysis

6.1.1 Methods Used

The methods used in the preparation of the Regulatory Impact Statement reported herein were based on:

- The *“Regulatory Impact Statement Instruction Manual”* issued by the Business Deregulation Unit of the NSW Department of State Development;
- The NSW Treasury Technical Paper titled *“Guidelines for the Economic Appraisal of Assets”*, issued in January, 1990.

The determination of the tangible economic value of the Regulation was based on the use of the technique of discounted cash flow analysis. The measure of worth adopted to compare the tangible relative merits of the Regulation and Alternatives was Present Value of Costs.

The discount rate used was 7% as specified by the NSW Treasury Technical Paper.

The period over which the discounted cash flow analysis was studied was five years.

6.1.2 Primary Assumptions

The following primary assumptions were made in this Regulatory Impact Statement:

- The current Regulation has reduced the risk of the incidence and scope of rural fires.
- The proposed Regulation would at least maintain this reduction in risk and possibly reduce the risk further.
- Current costs of property damage due to rural fires are \$98,281,010 per annum.
- The Regulation would reduce the annual costs of property damage resulting from rural fires by 10%.
- There would be an average of one less death per year due to rural fires under the Regulation than with no Regulation (Alternative 1).
- The economic cost of a death is \$850,000.
- The social cost of a death is \$193,708
- Human Resource costs of compliance with the Regulation will be \$3,880,647 per annum.

- Costs of monitoring compliance with the Regulation will be \$3,100,812 per annum.
- Recurrent costs of maintaining equipment required by the Regulation will be \$658,315.
- There would be no capital costs of equipment required by the Regulation.
- Costs of workers' compensation insurance incurred by the Rural Fires Service will be 15% per annum less than current costs.
- The expected life of the proposed Regulation before review will be 5 years.

6.2 List of Data and Information Sources Used

The following documents were studied:

- *Rural Fires Regulation (2002).*
- *Rural Fires Regulation 1997.*
- *Rural Fires Regulation 1997 Regulatory Impact Statement*
- *Rural Fires and Environmental Assessment Amendment Bill (2002).*
- *Rural Fire Service Annual Report 2000/01.*

6.3 The Consultation Process and the List of Parties to be Consulted

Individuals and organisations will be invited to comment on the Regulation in the following ways:

- Publication of a notice in the press in Sydney, Newcastle, Wollongong and rural cities in NSW.
- Publication of a notice in the Government Gazette.
- Individual letter of notice and invitation to comment on the Regulation.

The following parties have been consulted in the preparation of this Regulatory Impact Statement.

1. Office for Emergency Services
 - Richard Lyons.
2. Rural Fire Service
 - Mark Crossweller.
 - Grahame Douglas.
3. National Parks and Wildlife Service
 - Ray Jasper.
4. NSW Fire Brigades
 - Ian McDougall.
5. Local Government and Shires Association
 - Warren Taylor.
6. NSW Farmers Association
 - Jonathon McKeown.
7. Rural Fire Service Association
 - Keith Jordan.
8. Nature Conservation Council
 - Kathy Ridge.
9. State Forests
 - Paul de Mar.
10. Environmental Protection Authority
 - Lisa Corbyn.
11. PlanningNSW
 - Sue Holliday
12. NSW Fisheries
 - Steve Dunn
13. NSW Department of Land and Water Conservation
 - Robert Smith

ATTACHMENTS

ATTACHMENTS

ATTACHMENTS

ATTACHMENT A:

Present Value Analysis Spreadsheets

Present Value Analysis: RURAL FIRES REGULATION 2002

(\$'000)

YEAR	1	2	3	4	5	NPV		
ALTERNATIVE 1						4%	7%	10%
Compliance costs								
Human resources	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Costs of Monitoring Compliance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Costs of Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Workers' Compensation insurance	\$2,626	\$2,626	\$2,626	\$2,626	\$2,626	\$11,690	\$10,767	\$9,955
Costs of Bushfires								
Cost of fatalities	\$850	\$850	\$850	\$850	\$850	\$3,784	\$3,485	\$3,222
Social Cost of Fatalities	\$194	\$194	\$194	\$194	\$194	\$862	\$794	\$734
Property Damage	\$98,281	\$98,281	\$98,281	\$98,281	\$98,281	\$437,530	\$402,972	\$372,562
TOTAL:	\$101,951	\$101,951	\$101,951	\$101,951	\$101,951	\$453,866	\$418,018	\$386,473

YEAR	1	2	3	4	5	NPV		
PROPOSED REGULATION						4%	7%	10%
Compliance costs								
Human resources	\$3,881	\$3,881	\$3,881	\$3,881	\$3,881	\$17,276	\$15,911	\$14,711
Costs of Monitoring Compliance	\$3,101	\$3,101	\$3,101	\$3,101	\$3,101	\$13,804	\$12,714	\$11,755
Costs of Fire Extinguishers	\$658	\$658	\$658	\$658	\$658	\$2,931	\$2,699	\$2,496
Workers' Compensation insurance	\$2,232	\$2,232	\$2,232	\$2,232	\$2,232	\$9,937	\$9,152	\$8,461
Costs of Bushfires								
Cost of fatalities	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Social Cost of Fatalities	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Property Damage	\$88,453	\$88,453	\$88,453	\$88,453	\$88,453	\$393,777	\$362,674	\$335,306
TOTAL:	\$98,325	\$98,325	\$98,325	\$98,325	\$98,325	\$437,724	\$403,151	\$372,728

INCREMENTAL TO ALTERNATIVE 1	\$3,626	\$3,626	\$3,626	\$3,626	\$3,626	\$16,142	\$14,867	\$13,745
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COSTS OF COMPLIANCE		
COST DRIVER		NUMBER
1	Number of Rural Bush Fires Brigades	2,400
2	Number of Volunteers	70,000
3	Turn-over of Volunteers 10% per annum	7,000
4	Number of Local Government Areas where RFS is active	143
	Number of Local Government Areas (total)	172
5	Economic Costs of Human Resources	
	Per Annum	\$43,368
	Per Hour	\$26.28

ANNUAL COSTS OF HUMAN RESOURCES		
	Regulation	Alt 1
1 Workers' compensation insurance	\$2,232,100	\$2,626,000
	Clause 8	

2	Develop and record the Constitution (Clause 5) 7 person-hours per Brigade per 5 Years	\$88,313	\$0
3	Service Standards and Standard Operating Procedures - Devlpt & Updating (Part 2) 1 person per year	\$43,368	
4	Cost of Assessment of Competency (Clause 6 and 7) 1 hour for each new recruit per Brigade	\$183,985	
5	Assess status and fitness of fire fighters (Clause 8 and 9) 1 hour per Brigade per year	\$63,081	
6	Assess breaches of discipline and determine appropriate disciplinary action (Clause 10) 1 hour per Brigade per year	\$63,081	\$0
7	Hear appeals (Clause 11) 1 hour per Brigade per year	\$63,081	\$0
8	Prepare Incident Reports (Clause 12) 1 person-hour per month per Brigade	\$756,969	\$0
9	Perform specified functions of the Bush Fire Management Committee (Clause 16, 17, 18, 19) 12 person-days per year per Committee	\$338,270	
10	Assessing situation and issuing a permit by the local authority (Clause 20, 21) 1 person-hour per month per Local Authority or Brigade	\$45,103	
11	Clearing ground (Clause 26) 1 person-hour per month per Brigade	\$756,969	
12	Clearing ground for Garbage Depots (Clause 27) 1 person-hour per month per Brigade	\$756,969	
13	Clearing ground to produce Charcoal (Clause 28) 1 person-hour per month	\$315	
14	Issuing a permit by the local authority to produce Charcoal (Clause 28) 1 person-hour per month per Local Authority or Brigade	\$45,103	
15	Issuing a permit under the Dangerous Goods Regulation (Clause 29) 1 person-hour per YEAR per Local Authority	\$3,759	

COSTS OF COMPLIANCE		
16	Delivering Notices (Clause 39) 1 person-hour per month per Local Authority	\$45,103
17	Delivering Notices Intention to burn off (Clause 34) 1 person-hour per month per Local Authority	\$45,103
18	Delivering Notices to public authority (Clause 36) 1 person-hour per month per Local Authority	\$45,103
19	Delivering Notices of fire prohibition (Clause 37) 1 person-hour per month per Local Authority	\$45,103
20	Display of BF Management Plans (Clause 30) 1 person-hour per YEAR per Brigade	\$63,081
21	Delivering Notices hazard reduction (Clause 32) 1 person-hour per month per Local Authority	\$45,103
22	Delivering Notices hazard reduction in default (Clause 33) 1 person-hour per month per Local Authority	\$45,103
23	Register of Bravery and other awards 1 person-hour per month	\$315
24	At least one person being present at the site of the fire (Clause 44) 1 person-DAY per month per Local Authority	\$338,270
25	Application for Bush Fire Safety Authority (Clause 46) RFS - 1 person full-time Developers -	\$43,368 \$0
26	Application for bush fire hazard reduction certificate (Clause 48) RFS - 1 person-hour per month per Appropriate Authority Community - 1 person-hour per month per Appropriate Authority	\$45,103 \$45,103
ANNUAL COSTS OF HUMAN RESOURCES:		\$3,880,647
		\$0

COSTS OF EQUIPMENT		
	CAPITAL*	ANNUAL
1	Costs of required equipment for burning sawmill waste (Clause 21)	\$0
2	Cost of supply & maintenance of spark arresters (Clause 22)	
	Supply	\$0
	Maintenance	\$0
	TOTAL COSTS OF SPARK ARRESTERS	\$0
3	Cost of safety guards and other equipment (Clause 23)	
	Supply	\$0
	Maintenance	\$0
	TOTAL COSTS OF SAFETY GUARDS ETC	\$0
4	Cost of supply & maintenance of knapsack sprays/fire extinguishers (Clause 23)	
	Number of Farms with Cropping and Livestock	11,543
	Items of Agricultural Equipment Per Farm	
	Tractors	2
	Header/Harvesters (Self Powered)	1
	Total Items of Agricultural Equipment	34,629
	Number of Farms with Livestock Only	12,204
	Items of Agricultural Equipment Per Farm	
	Tractor	1
	Total Items of Agricultural Equipment	12,204
	Total Number of Items of Agricultural Equipment	46,833
	Unit Cost of Sprays/Fire Extinguishers	\$141
	Sub TOTAL Capital Costs	\$6,583,146
	Sub TOTAL Maintenance and Replacement (@ 10% per annum)	\$658,315
	TOTAL COSTS OF KNAPSACK SPRAYS/FIRE EXTINGUISHERS	\$6,583,146
		\$658,315

* Assumed to have been incurred already (sunk costs)

COSTS OF MONITORING COMPLIANCE

ITEMS ASSUMED TO BE MONITORED	
1	Burning to demolish buildings
2	Burning to destroy sawmill waste materials
3	Use of Spark Arresters
4	Other safety requirements
5	Lighting fires for cooking
6	Burning at Garbage Depots
7	Lighting Fires to Produce Charcoal
8	Offence to Light, etc. Tobacco Products
9	Destruction of Notices
10	Use of Apparel, Emblems and Insignia
11	Conditions of Fire permits
12	Special fire protection purposes
13	Penalty notices
COST ASSUMPTION	
0.5 Full Time Equivalent per local government area per annum:	\$21,684
Number of F.T.Es	143
ANNUAL COSTS	\$3,100,812