

New Zealand Fire Service Contestable Research Fund Instructions for Preparation of Expression of Interest 2009-2010

Applicants are invited to submit an expression of interest, which must be prepared using the following guidelines. To ensure consistency and fairness in the assessment of projects, the deadlines, page limits and headings given herein must be adhered to. Applicants should familiarise themselves with the Statement of Strategic Direction of the New Zealand Fire Service which may be viewed on the web page:

<http://www.fire.org.nz/about-us>

Applicants should also study the research reports arising out of work already carried out under the Contestable Research Fund in previous years to avoid duplication:

<http://www.fire.org.nz/research>

The Commission has prepared a set of briefing documents for particular projects (attached) but applicants are free to offer other research proposals that align with the Commission's strategic objectives.

Deadline

Expressions of Interest must be received by **5.00 pm Monday 9 November 2009** addressed to

Mailing address:		Physical address:
Fa'a Parsons		Fa'a Parsons
New Zealand Fire Service	or	New Zealand Fire Service
PO Box 2133		Level 9, AXA House
Wellington 6140		80 The Terrace
New Zealand		Wellington 6140
		New Zealand

Submission Layout

There is a page limit of 3 pages and text shall be in a font of Arial, type size of no smaller than 11 point, and in portrait layout. Applicants must submit seven (7) copies of the expression of interest:

Applications by e-mail and/or facsimile will not be accepted.

Information Required

The following information is required to be included in the expression of interest:

- Name and address of the organisation expressing interest
- Name and address of individual with whom contact should be made
- Title of project (no more than 14 words)
- Brief description of project aims and objectives, methodology, outcomes
- Estimated cost and duration
- Capability statement from organisation expressing interest
- Description of the staff to be involved in the project
- Identification of some recently completed research projects

Evaluation

Expressions of interest will be evaluated by a panel appointed by the New Zealand Fire Service Commission, based solely on the information provided by the applicants in the expression of interest submission. Once the submissions have been evaluated, a shortlist of suitable research projects will be drawn up, and applicants invited to prepare a detailed research proposal. All those submitting an expression of interest will be notified in writing of the panel's decision by **early December 2009**.

Note: The Fire Service has a database record of all its activities since 1986, including information on all fire incidents. Applicants with projects which involve using Fire Service data should contact the Service's information analysts first and ascertain the availability and the reliability of the information required. The application should include evidence that the Fire Service is able to supply the information within in the required timeframe for the project.

Contact details are:

For all incident and fire information:

Neil Challands

Information Analyst

Telephone (04) 496-3695 (direct)

e-mail neil.challands@fire.org.nz

Fax (4) 496 -3700

For fire weather information:

Jacqueline Hovens

Spatial Analyst

Telephone (4) 496 3693 (direct)

e-mail jacky.hovens@fire.org.nz

Fax (04) 496 3731

Delivery mechanisms for hard to reach groups

Introduction

The New Zealand Fire Service Commission has identified a series of at-risk groups to which fire safety messages and campaigns need to be targeted. The Fire Service conducts a fire knowledge survey every year to highlight within the general public whether there is an improvement in fire knowledge. These surveys have shown a statistically significant improvement over a number of years in the knowledge that people have about fire behaviour and fire prevention. However, the survey does not, in general, reach statistically significant populations within the identified at-risk groups, namely:

- Children
- People on low incomes
- People living in rental accommodation
- Ethnic groups including Maori and Pacific peoples
- Rural communities
- Older people
- People with special needs
- Commercial/manufacturing/retail sector

There is a need, to see whether the methods the Service is employing to reach these targeted groups are the most effective.

Project Purpose

The project purpose is to ensure that the New Zealand Fire Service has the appropriate delivery mechanisms in place to ensure that our key messages are reaching our targeted communities.

Specific Areas of Focus

The Project will include, but is not limited to, the following deliverables:

- analysis of the challenges associated with measuring changes in at-risk groups' knowledge and behaviour;
- specific measures that could be attached to fire service achievements in influencing at-risk groups;
- recommendations as to cost-effective survey methodologies for at-risk groups.

Researchers are invited to suggest other areas for consideration but should note that recent work has evaluating programmes for Maori populations and school children have recently been completed.

Project Team

Project Sponsor – Director Fire Risk Management, New Zealand Fire Service

Project Leader and Technical Advisor – the researchers will propose a suitably qualified individual with specialist skills in marketing

Project Team Members:

The researchers will propose a project team with an appropriate mix of marketing and technical skill to meet the project objectives.

Timelines

The project to commence in March 2010.

Previous Research

Research are reminded to visit the NZFS website to familiarise themselves with previous research reports as a foundation for future work www.fire.org.nz

Application of conversion model to changing at-risk groups attitudes of fire and fire danger

Introduction

The New Zealand Fire Service commissions a Fire Knowledge Survey of New Zealanders every year to establish the knowledge and attitudes of the public to fire risks, and how these change over time. These surveys are used to plan our marketing. Over the last three years these results have also been analysed using the 'conversion model' to view the commitment of the public to a more safe lifestyle. Whilst about 30% of people are 'committed' about 55% fall into the category classed as opportunity where they are open to a more fire safe lifestyle.

Project Purpose

The project purpose is to find out what are the potential incentives and barriers to people moving to a more safe lifestyle. How can we use this information to change the attitudes and commitment of at-risk groups?

Specific Areas of Focus

The Project will include, but is not limited to, the following deliverables:

- Review of available literature on the use of conversion model, particularly in a social marketing context
- Review of available literature barriers and incentives on uptake of messages
- Assessment of fire service use of conversion model
- Proposals on use of the model to drive change of attitude and behaviour

Project Team

Project Sponsor – Director Fire Risk Management, New Zealand Fire Service

Project Leader and Technical Advisor – the researchers will propose a suitably qualified individual with specialist skills in marketing

Project Team Members:

The researchers will propose a project team with an appropriate mix of marketing and technical skill to meet the project objectives.

Timelines

The project to commence in March 2010.

Previous Research

Research are reminded to visit the NZFS website to familiarise themselves with previous research reports as a foundation for future work www.fire.org.nz

Development of a low cost sprinkler system suitable for marae, community halls, churches and other places of special or historical interest

Introduction

Each year the Fire Service is called to about 6 fires in marae buildings, and 25 to 30 fire incidents that occur in buildings which are reported to have been built prior to 1901. Such incidents have resulted in significant damage or complete destruction of these buildings, with no automatic fire suppression installed. The consequences are often loss of irreplaceable national assets in terms of buildings, their contents and community amenities.

In 2002 a New Zealand Standard governing residential sprinkler systems for houses was introduced; NZS 4517:2002 – Fire sprinkler systems for houses. A growing number of home owners are installing sprinkler systems in their homes since the 2002 standard was introduced. However, there are a growing number of building owners that are installing a home sprinkler system in their buildings, outside the current scope of NZS4517:2002. This situation has arisen because many building owners, especially of high historical or cultural value buildings, such as marae are desperate to prevent potential loss due to fire. They are prevented from installing a commercial type sprinkler system due to their high cost and on-going maintenance charges, thus putting this technology outside their reach.

Although commendable that these owners are trying to improve the fire protection and safety in such buildings, the effectiveness of these systems is not proven in occupancies other than houses. So it is uncertain whether they will work as intended. As these are voluntary sprinkler systems, building owners are not restricted from doing this work. However, with appropriate research, a Standard can be developed that will guide building owners in best practice to mitigate their particular fire risk.

Project Purpose

This project aims at developing a low cost sprinkler system suitable for fire risks associated with marae, community halls, churches and other places of special or historical interest. The project aims to investigate the current limitations of NZS4517:2002 in terms of area cover, ceiling height, ceiling/roof angles, obstructions and fire load/fire growth rates, thereby investigating how it can be extended to protect these types of buildings.

Specific Areas of Focus

The Project will include, but is not limited to, the following deliverables:

- Literature review of relevant texts
- Risk associated with such building structures and relevant analysis work
- Design criteria and design parameters
- Cost/benefit analysis
- Recommendations for review

Researchers are invited to suggest other areas for consideration.

Project Team

Project Sponsor – Director Fire Risk Management, New Zealand Fire Service

Project Leader and Technical Advisor – the researchers will propose a suitably qualified individual with specialist skills in the areas identified.

Project Team Members - The researchers will propose a project team with an appropriate mix of technical skill and analysis.

Timelines

Project to commence in March 2010.

Previous Research

Research are reminded to visit the NZFS website to familiarise themselves with previous research reports as a foundation for future work www.fire.org.nz

Development of an evidence based building risk scoring matrix for use by operational crews

Introduction

The New Zealand Fire Service attends approximately 73,000 incidents per year. Of these incidents, 40% relate to incidents involving buildings. Fire Service personnel visit certain premises in advance for the purposes of pre-incident planning. Additionally Fire Service personnel visit buildings in connection with maintenance of evacuation schemes, false alarm reduction and to offer fire safety advice. Operational crews require a tool with which to assess the fire risk in a building so that they can prioritise those buildings that need to be visited first, or on a more regular basis. We call these 'buildings of interest'.

The New Zealand Fire Service requires a risk scoring tool to identify 'buildings of interest' that have higher

- risk to life
- potential for major property loss or consequential loss from fire
- community or cultural significance

The tool must be straightforward to use on the basis of plans, an inspection or descriptive information supplied in relation to the building. The scores assigned to buildings should take into account fire protection systems in a building. The scoring scheme should, as far as possible, be evidence-based and reflect the true increase or reduction in risk that may be attributed to different building features. The score may then be used to 'trigger' a designation as a 'building of interest', which may require a visit. The risk scoring will exclude houses but will include other kinds of accommodation.

Project Purpose

The purpose of this project is to develop an effective and easy to use building risk scoring tool for operational crews. The tools will be used to identify buildings of interest that may require further Fire Service action.

Specific Areas of Focus

The Project will include, but is not limited to, the following deliverables:

- Literature review
- Key factors that contribute to building fire risk
- Key factors that mitigate building fire risk
- Scoring tool presented in a format that could be deployed to operational crews to prioritise buildings of interest

Researchers are invited to suggest other areas for consideration.

Project Team

Project Sponsor –Principal Advisor Fire Risk Management, New Zealand Fire Service

Project Leader and Technical Advisor – the researchers will propose a suitably qualified individual with specialist skills in the areas identified.

Project Team Members - The researchers will propose a project team with an appropriate mix of technical skill and analysis.

Timelines

Project to commence in March 2010.

Previous Research

Research are reminded to visit the NZFS website to familiarize themselves with previous research reports as a foundation for future work www.fire.org.nz

What have the changes in New Zealand's demographic profile, particularly urbanisation, had (if any) on fire outcomes

Introduction

The New Zealand Fire Service Commission delivers a mix of services covering risk reduction, readiness, response and recovery. These services aim to achieve the Commission's mission of reducing the incidence and consequence of fires and providing a professional response to other emergencies. Over that last decade there has been fewer fires, fire fatalities, fires in structures and injuries from fire per 100,000 population. Whilst the Commission is delighted with these results it is aware that a number of external factors also influence fire outcomes. This project aims to assess the impact that key demographic changes, including urbanisation, have had on fire outcomes.

Project Purpose

This project is to assess the impact key demographic changes (including urbanisation) have had on fire outcomes.

Specific Areas of Focus

The Project will include, but is not limited to, the following deliverables:

- Determining a relevant timeframe to assess key demographic changes.
- Determining the key demographic changes that have occurred within New Zealand over the agreed timeframe.
- Assessing the impact, if any, the key demographic changes have had on fire outcomes.
- Documenting the method so that the project can be repeated for the purpose of ongoing monitoring

Researchers are invited to suggest other areas for consideration.

Project Team

Project Sponsor – Manager Strategy, New Zealand Fire Service

Project Leader and Technical Advisor – the researchers will propose a suitably qualified individual with specialist skills in the areas identified.

Project Team Members - The researchers will propose a project team with an appropriate mix of technical skill and analysis.

Timelines

Project to commence in March 2010.

Previous Research

Research are reminded to visit the NZFS website to familiarise themselves with previous research reports as a foundation for future work www.fire.org.nz

Metadata (or gap) analysis of research undertaken to date to identify outstanding research work to be performed through the fund and identify where there would be the greatest cost-benefit in sponsoring work to satisfy the Commission’s objectives

Introduction

The Commission’s contestable research fund was established in 1998 to advance knowledge in fire prevention and fire management in New Zealand in order to meet the Commission’s statutory interest as laid out in the Fire Service Act 1975 (Part II). To date over 90 research reports have been produced that have been used to improve methods and practices of fire safety in New Zealand. The research has generally fallen into 3 broad areas:

- Social research and influencing vulnerable groups
- Research in New Zealand’s wildfire risk assessment and mitigation
- Research in the built environment area

The fund was last formally reviewed in 2003¹ and the Commission wishes to take the opportunity to repeat a similar gap analysis to identify areas of potential outstanding research work.

Project Purpose

This project is to formally review the Commission’s fund and provide an analysis of what further fire research or evaluation could be undertaken in each of the three broad areas described above.

Specific Areas of Focus

The Project will include, but is not limited to, the following deliverables:

- Literature review of relevant reports
- Identify broad areas for potential research for the Commission for the next 3 – 5 years
- Identify the areas of research that would potentially provide the greatest cost/benefit against the Commission’s fund
- Recommendations for a future review process

Researchers are invited to suggest other areas for consideration.

Project Team

Project Sponsor – Director Fire Risk Management New Zealand Fire Service

Project Leader and Technical Advisor – the researchers will propose a suitably qualified individual with specialist skills in the areas identified.

Project Team Members - The researchers will propose a project team with an appropriate mix of technical skill and analysis.

Timelines

Project to commence in March 2010.

Previous Research

Research are reminded to visit the NZFS website to familiarise themselves with previous research reports as a foundation for future work www.fire.org.nz

¹ Framework for Social Research Funded Through the New Zealand Fire Service Contestable Research Fund, Centre for Research, Evaluation and Social Assessment, September 2003, research report #42

Research identifying weather patterns that are likely to impact on New Zealand up to three days in advance of occurrence

Introduction

The Forest and Rural Fires Act 1977 has as its purpose to safeguard life and property by the prevention, detection, control, restriction, suppression and extinction of fire in forest and rural areas and other areas of vegetation. New Zealand averages between 3000 4000 wildfires each year with an average area burnt of about 10,000 hectares. About 5% of these wildfires result in large or complex events that often required more resourcing in terms of fire suppression equipment and incident management personnel. The NZ Forest & Rural Fire Danger Rating System (NZFDRS) provides forest and rural fire mangers with a tool for calculating daily fire danger levels. The inputs to the NZFDRS are the weather parameters of temperature, perception and wind speed and direction. Having a better understanding of seasonal weather patterns that impact on the NZ landscape is a key component to forecasting fire daily danger levels.

Project Purpose

The project purpose is to provide information to rural fire managers on weather patterns likely impact on the NZ landscape, to enable improved forecasting of the effect of weather on daily fire danger up to 3 days in advance.

For further information contact

Gary Lockyer
Manager Rural Fire Operations and Legislation
New Zealand Fire Service
email gary.lockyer@fire.org.nz
Tel (4) 496-3691
Fax (4) 496-3700

Specific Areas of Focus

The Project will include, but is not limited to, the following deliverables:

- Literature review and conceptual model on the types of weather patterns and the resulting impacts of each on daily forest fire danger levels.
- A process for users to apply information on the impacts of weather patterns to assist with forecasting daily fire danger up to 3 days in advance.
- Researched information needs to be a format that allows knowledge transfer to practitioners.

Researchers are invited to suggest other areas for consideration.

Project Team

Project Sponsor – National Rural Fire Officer, New Zealand Fire Service

Project Leader and Technical Advisor – the researchers will propose a suitably qualified individual with specialist skills in the areas identified.

Project Team Members - The researchers will propose a project team with an appropriate mix of technical skill and analysis.

Timelines

The project to commence in March 2010

Previous Research

Research are reminded to visit the NZFS website to familiarise themselves with previous research reports as a foundation for future work www.fire.org.nz

Likely impacts on New Zealand from weather patterns across the southern parts of Australia - --

Introduction

The Forest and Rural Fires Act 1977 has as its purpose to safeguard life and property by the prevention, detection, control, restriction, suppression and extinction of fire in forest and rural areas and other areas of vegetation.

New Zealand averages between 3000 4000 wildfires each year with an average area burnt of about 10,000 hectares. About 5% of these wildfires result in large or complex events that often required more resourcing in terms of fire suppression equipment and incident management personnel.

The likely impacts of weather patterns from the southern parts of Australia on parts for New Zealand are not well known or understood by rural fire managers in New Zealand.

Project Purpose

The project purpose is to provide researched information on the likely impacts from weather patterns from southern parts of Australia on New Zealand.

For further information contact

Gary Lockyer
Manager Rural Fire Operations and Legislation
New Zealand Fire Service
email gary.lockyer@fire.org.nz
Tel (4) 496-3691
Fax (4) 496-3700

Specific Areas of Focus

The Project will include, but is not limited to, the following deliverables:

- Literature review and conceptual models on the impacts of weather patterns from southern Australia on New Zealand's weather.
- Researched information needs to be a format that allows knowledge transfer to practitioners.

Researchers are invited to suggest other areas for consideration.

Project Team

Project Sponsor – National Rural Fire Officer, New Zealand Fire Service

Project Leader and Technical Advisor – the researchers will propose a suitably qualified individual with specialist skills in the areas identified.

Project Team Members - The researchers will propose a project team with an appropriate mix of technical skill and analysis.

Timelines

The project to commence in March 2010

Previous Research

Research are reminded to visit the NZFS website to familiarise themselves with previous research reports as a foundation for future work www.fire.org.nz