Queensland

Building Fire Safety Regulation 2008

Regulatory Impact Statement for SL 2008 No. 160

made under the

Building Act 1975
Fire and Rescue Service Act 1990
Queensland Building Services Authority Act 1991
State Penalties Enforcement Act 1999

Title

Building Fire Safety Regulation 2008.

Introduction

Under the *Statutory Instruments Act 1992*, subordinate legislation expires on the 1st of September after the tenth anniversary of its commencement or such extended period as is permitted under the Act. If a proposed regulation is likely to impose appreciable costs on the community or part of the community, a regulatory impact statement (RIS) must be prepared before the regulation is made. This requirement has triggered the review and amendment of the *Building Fire Safety Regulation 1991*.

A RIS is designed to determine whether or not a proposed regulation is the most efficient and effective way of achieving desired policy objectives. It does this by providing a mechanism by which the Government's policy deliberations are clearly documented and subject to public scrutiny.

The purpose of this document is to explain the need for the proposed subordinate regulation and to present an evaluation undertaken of the likely costs and benefits that would flow from its adoption in comparison with other options explored. This RIS also contains a proposal to increase building fire safety fees.

In order to assist members of the community to respond to this review, a consultation draft of the proposed replacement regulation is attached to this paper (**Attachment F**).

All members of the community are invited to comment on the information presented in this RIS.

How to respond to this Regulatory Impact Statement

The closing date for providing comment on this RIS is 5 July 2007.

Written submissions should be sent to:

Mail: Attention: Project Officer, Legislative Review Project, Queensland Fire and Rescue Service, GPO Box 1425, Brisbane, 4001.

or

Fax: (07) 3109 7959

or

Email: fireris@emergency.qld.gov.au

Public access to submissions

If your submission contains information that you do not wish to be disclosed to others, please mark it "Confidential". Respondents wishing to make confidential submissions should be aware of the *Freedom of Information Act 1992*. Under the *Freedom of Information Act 1992*, the department must, on application, grant access to documents in the possession of the department unless an exemption provision applies. For example, if a submission contains information about a person's personal affairs (his or her experiences relevant to a matter covered by this RIS), and it is not in the public interest to release that information, the "personal" information in that submission will not be accessible under the *Freedom of Information Act 1992*.

Consideration of issues raised on the Regulatory Impact Statement

After the public comment period closes, the government will consider issues raised by members of the community.

Further consultation may occur to address any concerns raised by the community, stakeholders or other interested parties prior to the development by the government of a final policy position about the issues dealt with in the regulation.

Further enquiries

Further enquiries can be made by calling the Project Officer, Legislative Review Project, Queensland Fire and Rescue Service on (07) 3109 7952.

Background

The primary purpose of the current regulation is to:

- Ensure that fire safety features and equipment in buildings continue to perform to the same standard and to provide the same level of safety as originally intended;
- Ensure that persons can evacuate from buildings safely in the event of a fire; and
- Prescribe fees to be paid for the assessment and inspection of special fire services and the assessment of fire engineering design briefs.

The current regulation deals with all building stock in Queensland except single detached dwellings. The regulation applies to a wide range of buildings including: office, commercial, residential apartment buildings (not individual houses and units), industrial buildings, warehouses, hotels, and hostels. The department's records indicate that there are approximately 85,000 buildings in the group currently covered by this regulation.

The regulation places fire safety obligations primarily on the occupiers of buildings. It mainly impacts on:

- fire protection specialists, fire engineers and consultants who provide professional fire safety services, such as maintenance of installations and training and advice to building developers and owners/managers;
- the Queensland Building Services Authority, which licenses fire protection specialists and consultants, building certifiers and building developers;

- developers and building professionals involved in the design, construction or renovation of buildings;
- building approval authorities (for example, certifiers), which are engaged by building developers and professionals;
- the Queensland Fire and Rescue Service (QFRS), which monitors and inspects fire safety requirements in buildings and provides regulatory assessment and inspection services in relation to development approvals;
- owners, occupiers and managers of buildings; and
- members of the public, who reside in, visit and/or work in buildings.

In the review of the current regulation it was recognised that there have been significant changes in the regulatory environment since the regulation was made in January 1992 that need to be considered as part of the review of the best way to ensure that fire safety systems in buildings are properly maintained. For instance, since 1996 the Building Code of Australia has allowed for alternative building solutions for building fire safety systems. This allows building designers to design buildings where the fire safety systems meet specified performance criteria rather than the highly prescribed fire safety requirements that applied previously. Alternative performance based solutions tend to be building specific and can include individual specifications and conditions that must be met during the use of the building. This type of design presents challenges for the ongoing maintenance of building fire safety standards.

This RIS reviews three options to ensure fire safety measures in buildings are maintained. Firstly, no regulation with the existing regulation not being replaced on expiry. Secondly, the status quo with the existing regulation being remade without change and, thirdly, the preferred option of a new regulation with incremental changes to enhance fire safety in buildings and take account of changes in the building fire safety environment that have occurred since the *Building Fire Safety Regulation 1991* was made.

To assist members of the public and interested stakeholders, the RIS includes a consultation draft of a proposed replacement regulation that reflects the preferred option.

The main changes that are under consideration and about which comment is sought are discussed below.

The proposed regulation includes some minor new fees to reflect the changed demand on fire service officers' time, as well as a series of incremental fee increases.

Proposed increase of existing fees

Since the 1980s South East Queensland has experienced high and sustained population growth with the population growing at an average of 55,300 each year between 1986 and 2004. The South East Queensland region's population is projected to increase to 3.96 million people by 2026, an increase of 1.18 million people or average growth of around 60,000 people each year. The projected population increase, combined with the continuing trend towards smaller households, will require an estimated 575,000 new dwellings in the region by 2026. All regions in Queensland are expecting population growth including the central area of the State which in the past had experienced negative growth.

The increased population in South East Queensland will generate demand for around 425,000 new jobs by 2026. There will also be a wide variety of supporting infrastructure and services required, ranging from arterial roads, tunnels, public transport and water storages to local parks, shops and community facilities. These demands will continue to impose significant pressures on community safety services.

The QFRS is a referral agency with jurisdiction under the *Integrated Planning Act 1997* to provide advice about building fire safety systems for certain building work. In the discharge of these responsibilities the QFRS inspects and assesses building approval documents. The QFRS also inspects specified fire safety systems during construction to ensure that the systems comply with the relevant approval and operate as intended. The current *Building Fire Safety Regulation 1991* provides for fees to be paid to the QFRS for the discharge of these services**.**

According to a report commissioned within the QFRS, demand for community safety services is forecast to increase by 34.5% to the year 2021.

The regulatory review takes into account that demand for QFRS building fire safety functions has significantly increased. This growth in demand is expected to continue and additional resources are required to fully satisfy the current demand for services, and indeed to address the forecast growth in demand. At present, only 28% of the costs of providing building fire safety services are recovered through the fees charged for these services.

The RIS includes a proposal to increase the proportion of costs recovered through increasing Building Fire Safety Fees.

At present, building fire safety services provided by the QFRS to private certifiers and to the building and construction industries are highly cross-subsidised by own-sourced revenues generated to provide urban fire and rescue emergency response and non-building fire safety related prevention, education and information services. It is considered that the direct customers of building fire safety services, private building certifiers and the building and construction industries should contribute more fully to the costs of the services provided.

It is considered that Building Fire Safety Fees be incrementally increased from the current level of 28% of 2006–2007 costs recovered, to provide for 33.5% of 2007–2008 costs to be recovered with progressive annual increases such that by 2010–2011, 50% costs are recovered through fees. The additional fees would amount to slightly more than three and a half times the current fees by the year 2010–2011. However, with the proposed incremental increases this would start at only a 49% increase in year one, a 41% increase in the second year, a 23% increase in the third year and a 41% increase in the fourth year.

Attachment A sets out the impact on individual fees of these percentage increases. **Attachment A(1)** sets out a worked example to help explain the fee increase under consideration.

Proposed introduction of new fees

The fees for the assessment and inspection of certain fire safety systems by the QFRS do not cover all of the regulatory services provided by the QFRS. The QFRS has identified a number of gaps where no fee is charged for regulatory activity undertaken by the QFRS. Consideration is being given to charging a fee for these regulatory activities as follows:

- The current design brief meeting fee provides a fee for the involvement of the QFRS in design meetings with construction and design professionals that are part of developing an alternative building solution design. The fee is based on three such meetings being held. The use of alternative building solutions is increasing, and in many cases becoming significantly more complex and comprehensive in the design. In many cases, the negotiation process is increasing often easily exceeding the planned meeting process. In some instances, the QFRS has been

required to attend 8–10 meetings. It is therefore proposed to introduce a new fee applicable to more than three meetings, to be charged at an hourly rate;

- The QFRS currently participates in preliminary meetings with construction and design professionals. The purpose of which is to discuss proposed building development applications. No fee is currently charged for these meetings. The QFRS estimates that each of its Building Approval Officers would be involved in up to ten of these meetings per year, which amounts to approximately 300 meetings across the state per year. It is proposed to charge for preliminary meetings at an hourly rate;
- No fee is currently charged for preliminary inspections of special fire services and it is proposed to charge for this service;
- No fee is currently charged for the inspection of special fire services in temporary buildings and for an application for a change of classification and it is proposed that these services attract a fee; and
- Fees for assessment services provided to major infrastructure services such as tunnels.

Safer door locks for older buildings

Buildings constructed prior to 1975 are required under the proposed regulation to install fire exit door locking mechanisms on evacuation routes, which can be opened using a single device that can be operated with one downward or pushing action using one hand (for example a lever or handle). This type of locking mechanism is easier to open in an emergency and assists safe evacuation. All more modern buildings have been required to have this capability in compliance with the Building Code of Australia. Many older buildings already comply with this requirement because any major renovation over the last 35 years was required to include the updating of door locks to this standard. This requirement therefore only applies to a small part of the building stock, is relatively inexpensive (estimated cost $80–$220 per lever handle and locksmith labour and installation costs of $180–$220 for the installation of 4 lever handles) and brings clear fire safety benefits.

Evacuation route signage

Consideration is being given to introducing minor changes to improve evacuation route signage in older buildings. Buildings constructed after 1 July 1997 are required to have signs on fire safety doors stating that the door must not be obstructed (estimated cost $20–$50 per sign). It is proposed to extend this requirement to final exit doors for buildings constructed prior to 1 July 1997. In addition it is proposed to introduce "slide" signs for sliding final exit doors on evacuation routes (estimated cost $15–$30 per sign). The primary benefit of this requirement is to enhance the prospect of safe evacuation in the event of a fire. This will be achieved by ensuring that the final fire safety exit doors from buildings are not obstructed and that persons are aware of the presence of a sliding door.

Improved evacuation planning

Public comment is also sought on an improved and more detailed set of fire and evacuation planning requirements. The proposed arrangements describe evacuation planning in greater detail than the existing regulation and, if introduced, will require occupiers to review existing evacuation plans and, if necessary, update existing plans. It is expected that buildings with comprehensive fire safety evacuation plans (for example hospitals, residential high-rise buildings and high-rise commercial buildings) are likely to already comply with the more detailed requirements. The proposals include requiring high occupancy buildings to have an appropriate number of persons with an accredited fire safety qualification (estimated training cost $350 per person with renewal required every 3 years) and for staff evacuation training for high occupancy buildings to be carried out by persons with a fire safety qualification or a registered training organisation. The proposed regulation allows for staff training to be delivered electronically (for example by video or internet). The evacuation plan must also be practised and reviewed annually to ensure that it remains current.

Residential unit buildings with less than seven units and commercial premises with less than 10 staff are not required to have evacuation training delivered by qualified persons. It is considered that the training expense is not warranted for smaller premises. Public comment is sought about whether this exclusion is appropriate.

Reporting critical fire safety defects to the QFRS

The government is considering introducing an obligation on fire protection contractors to report significant defects in fire safety equipment to building occupiers and for occupiers to report such defects to the QFRS if they are not fixed within a specified period. The benefit of this provision is that it will ensure that the fire service is informed about significant building fire safety problems so that appropriate action can be taken to rectify problems. In order to assist members of the community to respond to this review, a consultation draft of the proposed replacement regulation is attached **(Attachment F)**.

Current regulatory environment

In 2004/2005, the Queensland Government conducted a review of fire safety arrangements in Queensland. The review included consultation with stakeholders via the release of a discussion paper, direct consultation with stakeholders and focus group research.

The consultation included: the public release of a Discussion Paper on 6 December 2004, Ministerial letters to all key stakeholders on 14 December 2004 enclosing the paper and seeking comment, further Ministerial letters to all stakeholders on 12 January 2005 notifying stakeholders of the availability of public forums to discuss the paper, a public workshop in Brisbane and 6 public workshops in major regional centres between 24 January and 9 February 2005, focus group research conducted in May 2005, receipt and consideration of 62 written submissions.

The review identified a range of reforms to fire safety arrangements in Queensland, including the introduction of mandatory smoke alarms for domestic premises. The reforms were included in the *Fire and Rescue Service Amendment Act 2006* and improve fire safety in domestic, commercial and public buildings and the fire safety regulatory framework.

The review of the regulation represents the next stage of the review of fire safety arrangements in Queensland. Core stakeholders in the fire protection and property industries have been consulted in January and February 2007. The RIS is published in order to seek broader public comment on the proposals contained in the document.

In order to assist members of the community to respond to this review, a consultation draft of the proposed replacement regulation is attached **(Attachment F)**.

The proposed regulation is to ensure that building fire safety standards are maintained in buildings other than single detached dwellings, providing the fire safety performance for which they were originally designed and built.

The current regulation commenced on 1 January 1992 and has remained largely unchanged since it was introduced. However, during this period there have been significant changes in the building safety regulatory environment.

Information about the economic structure of fire protection in Queensland is contained in **Attachment B**.

A recent brief history of the regulation of fire safety in Australia is contained in **Attachment C**.

Key benefits of the proposed regulation

No research data or studies could be located that provided a definitive quantitative assessment of the costs and benefits involved in maintaining fire protection services. In terms of a qualitative assessment of the key benefits, it can be assumed that the regulation provides for workplace health and safety and/or general duty of care requirements and it would also, in all likelihood, significantly decrease the risk of death, injury and property loss caused by fire.

The following represents the Australasian Incident Reporting System statistics on deaths and injuries caused by fire in non-residential buildings in Queensland for the financial years 2002/2003 to 2006/2007 year to date:

FIN. YEAR	CIVILIAN FATALITIES	BRIGADE INJURIES	CIVILIAN INJURIES	TOTAL FIRES
02/03	9	19	98	1121
03/04	2	13	110	1163
04/05	2	24	105	1154
05/06	2	17	98	1191
06/07 ytd	0	5	46	895
Total	**15**	**78**	**457**	**5524**
Average	**3**	**16**	**91**	**1105**

Without any regulation, it is anticipated that the above figures would significantly increase.

Proposed fee increases to progressively recover more of the costs incurred in providing these services, up to 50% cost recovery in the 2010–11 year, will provide for additional resources to meet the forecast increases in demand for building fire safety services over the period. They will provide for the development and implementation of image based systems for the lodgement, review, approval and storage of building fire safety plans that will deliver a greatly enhanced service and shorter turn-around times for users of these services. They will also provide for enhanced database systems to dramatically improve the department's ability to successfully respond to and suppress fire incidents in buildings with reduced loss of life, injury to members of the public and staff and reduced damage to the building, surrounding built infrastructure and the environment.

The anticipated costs and benefits to industry, government and the general community of the more significant of the proposed changes as incorporated in the attached consultation draft of the replacement regulation are set out in **Attachment D**.

Authorising law

Sections 104C, 104D, 104E, 104S and 154 of the *Fire and Rescue Service Act 1990* provides the head of power under which the regulation can be made.

Policy objective

The building regulatory system established by the *Building Act 1975, Building Regulation 2006, Integrated Planning Act 1997, Integrated Planning Regulation 1998* and the Building Code of Australia establishes the standards to which buildings are designed, constructed and approved. It is not enough, however, that a building is built to an acceptable fire safety standard. If building fire safety standards are not maintained over the life of the building, then the building will cease to provide the level of safety for which it was designed.

Legislative intent

The government's policy objectives will be achieved by remaking the regulation to:

- Provide a more certain and prescriptive set of obligations for ensuring that occupiers of buildings keep exit routes from buildings clear, unobstructed, well signed and capable of being used to evacuate a building in the event of an emergency;
- Establish a framework for the locking of doors on exit routes that balances security and safety interests and that makes special allowances for child care centres and buildings where persons are lawfully held in custody;
- Ensure the ongoing integrity of fire isolated compartments;
- Clarify the obligation on occupiers of buildings to ensure that the number of persons in a building at any time does not unsafely impede evacuation in the event of an emergency;
- Establish more certain and prescriptive fire and evacuation planning, coordination training, ongoing plan review, signage and instruction arrangements;
- Establish obligations for the maintenance of fire safety installations by building occupiers and fire protection contractors in accordance with relevant standards, including AS 1851-2005;
- Establish a requirement for critical fire protection system failures to be reported to the QFRS;
- Prescribe fees for the assessment and inspection of special fire services and fire engineering design briefs; and
- Establish record keeping, retention and transfer obligations for occupiers.

The proposed regulation **(Attachment F)** is considered reasonable and appropriate as it is unlikely that building fire safety standards will be maintained without a clear and consistent set of obligations to guide building occupiers in ensuring that the buildings they are responsible for are safe for workers and the general community that uses buildings.

Most buildings do not experience serious fires. This can lead to complacency about maintaining fire safety standards. Issues such as rental costs and key amenities such as air-conditioning and the quality of building management are likely to be given priority over maintaining fire safety equipment and practising evacuation plans that may never be used. However, the risk to safety in the event of a serious fire is very high. The regulation plays a critical role in ensuring that fire safety remains a priority.

Consistency with authorising law

The policy objectives of the proposed regulation are consistent with the building fire safety objectives of the *Fire and Rescue Service Act 1990*.

The policy objectives of the *Fire and Rescue Service Act 1990,* so far as building fire safety are concerned, are apparent from the responsibilities given to the QFRS and the building fire safety obligations placed on building occupiers.

The Act establishes the QFRS and gives to the Service a range of responsibilities. In terms of fire safety, the QFRS is charged with the responsibility to:

- protect persons, property and the environment from fire and hazardous materials emergencies; and
- provide an advisory service and undertake other measures to promote fire prevention and fire control.

The Act establishes a set of core responsibilities for occupiers of buildings to:

- maintain means of escape from buildings;
- maintain fire safety installations that are required by law to be installed in buildings; and
- maintain a fire and evacuation plan and provide instructions to persons working or residing in buildings about actions to be taken in the event of a fire.

The Act establishes responsibility for the preparation of a building fire safety management plan on the owners of budget accommodation buildings.

In addition, the *Integrated Planning Act 1997* and the *Integrated Planning Regulation 1998* establish the roles and responsibilities of the QFRS in the building development and approval system. The QFRS is given jurisdiction to advise applicants for development approvals in relation to aspects of the fire safety systems of buildings.

Consistency with other legislation

The proposed regulation is not inconsistent with any other Queensland legislation.

Options and alternatives

Option 1 – No regulation

Both the current and proposed regulation are a necessary part of the building regulatory system. If there were no compliance requirements for maintaining building fire safety standards, this would undermine the policy intent of the building design and approval regime to ensure adequate safety standards are designed into buildings. A building cannot perform to the safety standards to which it is built without consistent and ongoing attention to maintaining fire safety standards. Both the existing and proposed regulations provide the regulatory mechanism to ensure that the required ongoing maintenance occurs.

The BCA contains a provision that requires that safety measures in buildings be "capable of performing to a standard no less than that which they were originally required to achieve"[1]. The BCA does not contain or specify the regulatory and administrative arrangements to secure compliance with this requirement and, in Queensland, both the existing and the proposed regulation establish the regulatory framework to meet this requirement. Recent research by the Australian Productivity Commission indicates that regulatory systems must ensure maintenance of commercial buildings "to ensure ongoing compliance with the BCA"[2].

Industry participants have also drawn attention to the risk presented by inadequate building fire safety maintenance. In a submission to the Australian Productivity Commission, a fire engineering firm, Arup Fire stated:

"Many accidental commercial fires in Australia in the past 20 years have been caused through poor building maintenance, whether by inactive fire systems, illegal building works or general poor maintenance to aspects such as fire doors or fire walls"[3].

Evidence of the role played by the existing regulation in maintaining fire safety standards is the extent to which enforcement action has been

1 Australian Building Codes Board 2006, *Building Code of Australia,* Volume 1, Part IP1.1

2 Australian Productivity Commission, 2004 *Reform of Building Regulation,* Research Report, p 235

3 Australian Productivity Commission, 2004 *Reform of Building Regulation,* Research Report, p 235

necessary to ensure compliance. In the main, the QFRS aims to achieve acceptable levels of building fire safety by education and community awareness programs and these types of programs are an essential and core function of the service. However, between January 2001 and June 2006, the QFRS issued 4726 enforcement and infringement notices and completed 59 court prosecutions (all of which were successful) for building fire safety enforcement matters. It is expected that the QFRS will be required to continue with similar levels of enforcement activity under the proposed regulation to ensure that building fire safety standards are maintained.

The level of regulatory vigilance that is necessary to ensure compliance indicates that if the regulation were removed there would be a substantial increase in the number of buildings that were unsafe because fire safety systems were neglected.

The critical nature of an adequate building fire safety regulatory framework is emphasised by the recent government proposal to increase penalties for building fire safety offences under the *Fire and Rescue Service Act 1990.* The increases are contained in the *Fire and Rescue Service Amendment Act 2006*. These obligations include requirements to maintain adequate means of escape, fire safety equipment and evacuation plans and procedures to ensure personal safety in the event of fire. The *Fire and Rescue Service Amendment Act 2006* increases penalties where the breach of a fire safety obligation causes serious consequences such as death or injury.

The *Fire and Rescue Service Amendment Act 2006* imposes a sliding scale of significant penalties for contraventions that result in adverse consequences, ranging from $750,000 or 3 years imprisonment for a contravention that results in multiple deaths down to $7,500 where there is a contravention with no adverse consequence.

If there was no regulation in existence, this may breach workplace health and safety and/or general duty of care requirements. It would also, in all likelihood, significantly increase the risk of death, injury and property loss caused by fire.

Option 2 – Remake of the Building Fire Safety Regulation 1991 (without changes)

The remaking of the *Building Fire Safety Regulation 1991* without any changes would provide the same level of fire safety in buildings as is presently provided. However, this service level is to be considered against

the continuing increase in demand for building fire safety services, driven by strong growth in large multi-storey residential, commercial and industrial building and services infrastructure in Queensland. Service growth will also be required to provide professional fire safety services for major infrastructure projects such as the North-South Bypass and Airport Link tunnels.

The obligations contained in the regulation ensure that buildings continue to provide the fire safety performance for which they were originally designed and built. For instance, buildings are designed and constructed so that occupants can evacuate safely in the event of a fire. The means of escape provisions in the existing regulation require that the designed and constructed fire safety evacuation features be kept available for use. Similarly, the regulation requires that fire safety equipment be maintained in accordance with the relevant maintenance standard so that the equipment operates as intended. The regulation fulfils the same function of providing a necessary complement to the building laws and standards that regulate building approval and construction. The regulation is also intended to ensure that building fire safety measures continue to perform as originally intended.

If the *Building Fire Safety Regulation 1991* was remade without any changes, then this would result in some outdated requirements that do not adequately reflect the current building fire safety environment. Consequently, the opportunity to make incremental changes that take into account significant developments in the building fire safety environment over the last ten years would be relinquished.

Option 3 – Remake of the Building Fire Safety Regulation (with changes) –PREFERRED OPTION

The preferred option is to remake the *Building Fire Safety Regulation 1991* with some incremental changes to improve the level of fire safety in buildings than is presently required including increasing the QFRS's ability to provide enhanced services and meet increased demand for these services through the additional resources that will be acquired as a result of the proposed increased fees.

The obligations contained in both the existing and revised regulation ensure that buildings continue to provide the fire safety performance for which they were originally designed and built.

A new building fire safety regulation will be introduced as a result of this review. In order to assist members of the community to respond to this review, a consultation draft of the proposed replacement regulation is attached to this paper **(Attachment F).**

The proposed regulation is the preferred option, largely because it has taken significant developments in the building fire safety environment over the last ten years into account, such as the introduction of a performance based building code and a significantly revised Australian Standard relating to maintenance of fire safety equipment.

A summary of the key benefits of the revised regulation include the following:

- a more defined set of obligations for ensuring that occupiers of buildings keep evacuation routes from buildings clear, unobstructed, well signed and capable of being used to evacuate a building in the event of an emergency;
- a better framework for the locking of doors on exit routes that more adequately balances security and safety interests and that makes special allowances for child care centres and buildings where persons are kept in lawful custody;
- improved maintenance requirements concerning the ongoing integrity of fire isolated compartments;
- clarification of the obligation on occupiers of buildings to ensure that the number of persons in a building at any time does not unsafely impede evacuation in the event of an emergency;
- more clearly defined evacuation planning, evacuation coordination training, ongoing plan review, signage and instruction arrangements, including a requirement that certain instructions be provided by persons with appropriate training and qualifications;
- ensuring that any fire safety management procedures included in an alternative solutions building are adequately reflected in evacuation plans and that approval documents containing the management procedures are kept together with the evacuation plan in the building;
- a new obligation for fire protection contractors (additional to the current requirements on occupiers) to undertake proper and adequate maintenance of fire safety equipment;

- a new duty for fire protection contractors to report significant defects in fire safety equipment to the occupier and for the occupier to report those defects to the QFRS; and
- new fees for the assessment and inspection of special fire services and the assessment of fire engineering design briefs that cover minor services that are currently provided free of charge and increases fees incrementally over a four year period.

Cost-benefit assessment

Quantitative cost benefit material is generally not available, though there is some data that can assist in achieving credible estimates. Therefore, a largely qualitative approach to the cost/benefit analysis has been adopted, supplemented by quantitative material where that material is available.

An overview of the economic structure of fire protection in Queensland is contained in **Attachment B**.

The overriding/key benefit of the proposed regulation is aiming to ensure public safety and prevention of property loss in the event of a fire. As previously explained, another key benefit of the regulation is that fire safety installations are maintained in accordance with the relevant maintenance standard so that this equipment operates as intended.

The anticipated costs and benefits to industry, government and the general community of the more significant of the proposed changes as incorporated in the attached consultation draft of the replacement regulation are set out in **Attachment D**.

The following provides a summary of the costs and benefits applicable to key parts of the proposed regulation.

Means of escape from buildings

Cost: There would be a small cost to the building industry in relation to signs required on doors. For example, the approximate price range of 'Fire Safety Door – Do Not Obstruct' signs is between $20–$50. For a 'Slide' sign, the approximate price range is $15–$30. It should be noted that many buildings may already have the applicable signs installed; however there is no reliable way of determining this number.

There would also be a cost involved for pre-1975 buildings to replace door knobs on an evacuation route with a device that can be operated by only one downward or pushing action using one hand. Indications are that this would cost between $80–$220 per lever handle (excluding installation). The approximate labour and installation costs, based on a locksmith call-out fee and the installation of four lever handles, would be between $180–$220. Various queries were made in an attempt to acquire an estimate on the number of pre-1975 buildings in Queensland, however this information proved to be unobtainable.

Benefit: The key benefit is that occupants are able to safely evacuate in emergency situations.

Overall: On balance, it is considered the benefits to building occupants outweigh the cost imposed on the building industry.

Occupancy limits for buildings

Cost: Minimal.

Benefit: This part of the regulation aims to ensure that buildings are not overcrowded, which in turn aims to ensure that people can safely evacuate in emergency situations.

Overall: On balance, it is considered the benefits to building occupants outweigh this negligible cost.

Fire and evacuation planning

Cost: There would be a cost to the property industry with regard to fire and evacuation training and fire and evacuation plans.

Buildings that comply with the existing law would already have a Fire and Evacuation Plan, so the only additional requirement would be to review the plan to ensure that it is current and complies with the proposed requirement. Accordingly, a significant cost would only be applicable to those buildings that do not comply with the existing law and therefore require a Fire and Evacuation Plan.

With regard to the cost of having a Fire and Evacuation Plan professionally prepared, industry sources indicate that it is likely to cost $135 per hour + GST, with an average time to prepare such a plan varying between 8–13 hours, depending on the building in question, which equates to an

approximate cost of between $1,118–$1,931. However, such a plan could be prepared by the building owner/occupier (a sample proforma/example is provided on the fire service website). Further, as this is an existing requirement, buildings should already have fire and evacuation plans in place.

Under the proposed regulation, the following tiers of fire and evacuation training are required:

- Basic Evacuation Instructions – means instructions about the location of fire safety reference points and procedures for evacuating the building;
- Intermediate Evacuation Instructions – means instructions about the method of operation of firefighting equipment and manually operated fire alarms; and
- Evacuation Coordination Instructions – means instructions about the evacuation coordination procedures (also known as fire warden training).

With regard to training costs, there is no perceived additional cost for basic evacuation instruction training, as these instructions are be provided by an existing internal employee.

In relation to intermediate evacuation instruction training, it is assumed that this should impose no additional cost, as these instructions can be provided by the occupier in the case of buildings other than high occupancy buildings. In the case of high occupancy buildings, training is to be provided by an internal employee who has been trained in evacuation coordination instructions (as legislation allows) or by a registered training organisation.

It is assumed that for high occupancy buildings, evacuation coordination instruction training would be provided by a professional training entity. Industry sources indicate that the approximate cost for such a course is $350 per person. This is an existing requirement under the current regulation, however as this training is required to be performed at least every 12 months, it will result in ongoing costs for all applicable organisations/businesses. It is likely that many major buildings (e.g. hospitals/high rise buildings etc.) already have in place an evacuation system that includes regular training of fire wardens. Under the legislation, occupiers of low occupancy buildings are able to provide these instructions if they can competently carry out the procedures and if they are the only

person responsible for carrying out these procedures under the building's fire and evacuation plan.

Industry sources indicate that the cost of having a Fire and Evacuation Plan attached to a wall (required in accommodation units) professionally prepared is approximately $250 for an original plan, $90 for the reorientation of the plan and $45 for copies of same plan. However, as this is an existing requirement, the applicable buildings should already have the required fire and evacuation signs on their exit doors. Therefore, the only impact would be on any newly built commercial buildings. However, given the cost of the signs it is viewed that this would not be a significant cost.

Benefit: The key benefit of this part of the regulation is that building occupants are adequately trained in fire and evacuation procedures and that all building occupants are aware of the most appropriate evacuation route to use and procedures to follow in the event of an emergency situation. This is also good business practice for organisations, in terms of workplace health and safety and common law obligations.

Overall: On balance, it is considered the benefits to building occupants outweigh the cost imposed on the building industry.

Prescribed fire safety installations

Cost: There would be a cost to building industry applicable to maintaining prescribed fire safety installations.

This is an existing requirement. However, as maintenance is required to be performed on an ongoing basis, it will result in ongoing costs for all applicable organisations/businesses.

It is difficult to easily determine the approximate cost to applicable buildings, as it is largely dependent on the number of prescribed fire safety installations that they have, which again is difficult to determine.

With regard to the amount spent on the maintenance of prescribed fire safety installations in Queensland government owned buildings in the south east region of Queensland, for the 2005/2006 year, approximately $3.2 million was spent (actual costs to date and pre-emptive costs for the rest of the financial year) in 540 buildings, which is an approximate average of $6,000 per building. However, it should be noted that this includes some buildings unique to government such as correctional centres, TAFEs/colleges, courts, police, fire and ambulance stations and public

schools. The average spent on maintaining prescribed fire safety installations in office buildings was approximately $20,000 per building.

Benefit: The primary benefit of this part of the regulation is that prescribed fire safety installations effectively function as originally intended, which in turn would prevent death, injury and property loss the event of an emergency situation. This is also good business practice for organisations, in terms of workplace health and safety and common law obligations.

Overall: On balance, it is considered the benefits to building occupants outweigh the cost imposed on the building industry.

Fees for assessment and inspection of special fire services

Cost: There would be some additional cost to applicants for assessment and inspection of special fire services, both in terms of new fees and of increases in current fees.

There are four proposed new fees that are not included under the current regulation. The primary reason that these new fees have been proposed is because the QFRS currently performs these particular services, however does not currently charge any fee. Further details of these proposed new fees are contained in **Attachment B**. It should be noted that under the proposed regulation (Option 3), the QFRS would still perform some services relating to special fire services at no charge, such as telephone consultations and general meetings with key stakeholders of larger projects. The proposed regulation (Option 3) also contains a proposal to increase current fees over a three year period, as is set out in **Attachment A**.

Some of the services specified in the proposed regulation are charged by way of a set base fee, which is dependant on the category that the stated building work falls within (determined by floor area size). In addition to this base fee, if the required special fire services are listed in Schedule 3, Part 2 of the proposed regulation, then an additional percentage fee (as specified in Schedule 3, Part 2) is charged. Other fees are specified in Schedule 3, Parts 3 and 4 of the proposed regulation.

A hypothetical example which contrasts current and proposed fees for the assessment and inspection of special fire services is set out in **Attachment A(1)**.

Benefit: The primary benefit of this part of the regulation is that special fire services are appropriately assessed and inspected for an appropriate fee for service.

The proposed fee increases will provide for resources to meet the forecast increased demand for Building Fire Safety services (projected to increase by 34.5% to the year 2021). Fee increases will provide for the development and implementation of image based systems for the lodgement, review, approval and storage of building fire safety plans that will deliver a greatly enhanced service and shorter turn-around times for users of these services. They will also provide for enhanced database systems to dramatically improve the department's ability to successfully respond to and suppress fire incidents in buildings with reduced loss of life, injury to members of the public and staff and reduced damage to the building, surrounding built infrastructure and the environment. The additional resources that will be able to be acquired due to increased cost recovery will ensure that Queensland is well placed, as compared to other states, to provide timely and high quality building safety services.

At present fees for Building Fire Safety Services cover of only 28% of costs incurred in providing these services. It is proposed that the direct customers of building fire safety services, private building certifiers and the building and construction industries contribute more fully to the costs of the services provided.

Overall: On balance, it is considered the benefits to the building industry and building occupants outweigh the cost imposed on the building industry.

Fundamental legislative principles

Fundamental legislative principles are the principles relating to legislation that underlie a parliamentary democracy based on the rule of law (*Legislative Standards Act 1992*, s. 4(1)). The principles include requiring that legislation has sufficient regard to the rights and liberties of individuals and to the institution of Parliament.

In preparing legislation the government has to be mindful of fundamental legislative principles and explanatory notes that accompany legislation have to contain an assessment of the consistency of the proposed legislation with fundamental legislative principles.

It is not anticipated that the recommended option (3) or the provisions of the consultation draft of the proposed regulation **(Attachment F)** will

infringe on any fundamental legislative principles, except for the proposed provision that maintenance of fire safety installations be carried out in accordance with relevant Australian Standards.

It is possible that by referencing Australian Standards and requiring maintenance work to be carried out in accordance with those standards mandatory, the proposed legislation does not have sufficient regard to the institution of Parliament. This is because an Australian Standard (and any amendments made by or to that standard) is not made by or with the agreement of Parliament nor is it subject to Parliamentary scrutiny.

Australian Standards are technical documents that aim to incorporate an agreed standard across all sectors of society and the committees that make such standards include a broad representative cross section of stakeholders. It would be neither practical nor wise to require maintenance work to be done on critical fire safety equipment otherwise than in accordance with the standards accepted by industry and the community as recorded in standard documentation. To the extent that there is any erosion of the sovereign power of Parliament it is unavoidable and necessary.

Conclusion

This largely qualitative assessment indicates that the proposed remake of the *Building Fire Safety Regulation 1991* (with changes) [Option 3] will ensure that buildings continue to provide the fire safety performance for which they were originally designed and built and will enhance the requirements of the current regulation by incorporating some changes that take into account significant developments in the building fire safety environment over the last ten years.

Attachment A

Proposed fee increases

Fiscal year	2006–07	2007–08		2008–09		2009–10		2010–11	
Fees are exempt from GST by virtue of Division 81	**Current fee recovering 28% of costs**	**With a CPI increase only**	**Recovering 33.5% of costs**	**With a CPI increase only**	**Recovering 39% of costs**	**With a CPI increase only**	**Recovering 44.5% of costs**	**With a CPI increase only**	**Recovering 50% of costs**
Attendance by QFRS Officer at premises:									
- first two hours (minimum)	$214.50	$219.86	$319.61	$225.36	$450.64	$230.99	$554.29	$236.77	$781.55
- each additional hour or part thereof	$107.25	$109.93	$159.80	$112.68	$225.32	$115.50	$277.15	$118.38	$390.78
Base fee relating to building work									
Building work with a floor area not more than 700 sq m	$329.55	$337.79	$491.03	$346.23	$692.35	$354.89	$851.59	$363.76	$1,200.75

Fiscal year	2006–07	2007–08		2008–09		2009–10		2010–11	
Fees are exempt from GST by virtue of Division 81	**Current fee recovering 28% of costs**	**With a CPI increase only**	**Recovering 33.5% of costs**	**With a CPI increase only**	**Recovering 39% of costs**	**With a CPI increase only**	**Recovering 44.5% of costs**	**With a CPI increase only**	**Recovering 50% of costs**
Building work with a floor area more than 700 sq m but not more than 1,100 sq m	$593.50	$608.34	$884.32	$623.55	$1,246.88	$639.13	$1,533.67	$655.11	$2,162.47
Building work with a floor area more than 1,100 sq m but not more than 1,500 sq m	$726.05	$744.20	$1,081.81	$762.81	$1,525.36	$781.88	$1,876.19	$801.42	$2,645.43
Building work with a floor area more than 1,500 sq m but not more than 2,000 sq m	$795.20	$815.08	$1,184.85	$835.46	$1,670.64	$856.34	$2,054.88	$877.75	$2,897.38
Building work with a floor area more than 2,000 sq m -	$829.80	$850.55	$1,236.40	$871.81	$1,743.33	$893.60	$2,144.29	$915.94	$3,023.45
- plus an additional charge for each 100 sq m above 2,000 sq m	$6.35	$6.51	$9.46	$6.67	$13.34	$6.84	$16.41	$7.01	$23.14
Reassessment fee per hour	$126.80	$129.97	$188.93	$133.22	$266.39	$136.55	$327.66	$139.96	$462.01

Fiscal year	2006–07	2007–08		2008–09		2009–10		2010–11	
Fees are exempt from GST by virtue of Division 81	**Current fee recovering 28% of costs**	**With a CPI increase only**	**Recovering 33.5% of costs**	**With a CPI increase only**	**Recovering 39% of costs**	**With a CPI increase only**	**Recovering 44.5% of costs**	**With a CPI increase only**	**Recovering 50% of costs**
Reinspection fee for first hour or part thereof	$253.55	$259.89	$377.79	$266.39	$532.68	$273.05	$655.20	$279.87	$923.83
Reinspection fee for each subsequent hour or part thereof	$126.80	$129.97	$188.93	$133.22	$266.39	$136.55	$327.66	$139.96	$462.01
Fee for an alternative solution meeting	$329.55	$337.79	$491.03	$346.23	$692.35	$354.89	$851.59	$363.76	$1,200.75
Fee for fire engineering design brief	$1,014.20	$1,039.56	$1,511.16	$1,065.54	$2,130.73	$1,092.18	$2,620.80	$1,119.49	$3,695.33
Research fee for a for I subsystem	$322.70	$330.77	$480.82	$339.04	$677.96	$347.51	$833.89	$356.20	$1,175.79
Research fee for 2–5 subsystems	$530.15	$543.40	$789.92	$556.99	$1,113.79	$570.91	$1,369.96	$585.19	$1,931.65
Research fee for more than 5 subsystems	$1,060.30	$1,086.81	$1,579.85	$1,113.98	$2,227.58	$1,141.83	$2,739.93	$1,170.37	$3,863.30
									$116.23

Fiscal year	2006–07	2007–08		2008–09		2009–10		2010–11	
Fees are exempt from GST by virtue of Division 81	**Current fee recovering 28% of costs**	**With a CPI increase only**	**Recovering 33.5% of costs**	**With a CPI increase only**	**Recovering 39% of costs**	**With a CPI increase only**	**Recovering 44.5% of costs**	**With a CPI increase only**	**Recovering 50% of costs**
Fee per kilometre where the distance travelled to the premises exceeds 50km one-way	$1.10	$1.13	$1.64	$1.16	$2.31	$1.18	$2.84	$1.21	$4.01
Fee per day for advisory, assessment and consultancy services provided to major infrastructure projects	New service for which a charge has not been set previously		$1,425.00	$1,460.63	$1,516.20	$1,497.14	$1,613.24	$1,534.57	$1,716.48

Notes: 1. Additional fees apply for premises where Special Fire Services are involved.

2. The costs of any airfares, travel and accommodation involved are recovered at cost.

3. The costs of external fire engineering and consultancy services required are recovered at cost.

4. The costs of providing vehicles, staff, agency and hired equipment for commissioning and testing services will be recovered at cost.

Attachment A(1)

A 40-level, 500m² per level residential building being developed incurs the following charges:

The development team request a preliminary meeting to refine broad concepts. A two-hour preliminary meeting currently incurs a charge of $126.80 (first hour free and a charge for the second hour). In 2007–08 with 33.5% cost recovery this fee would be $188.93, in 2008–09 at 39.0% $266.39, in 2009–10 at 44.5% $327.66 and in 2010–11, with 50% cost recovery this fee would be $462.00.

An application is received – the building requires assessments of required special fire services, which are charged at a percentage of the base fee. The fee for this assessment would be the base fee for a building of 20,000sqm, which amounts to $1,972.80. In 2007–08 it becomes 180 x $9.46+1,236.40 = $2,939.20 with a 33.5% cost recovery in 2007-08 [calculated using the formula in Schedule 3, Part 1(e)] plus each fire service as a percentage of the base fee. As this is an assessment described in Division 3 section 53 the formula AIF = (BF + TSFSF) x 2 and an additional research fee and design brief consultation fee. Special fire services fees are as follows. Proposed fees from 2006-07 to 2010-11 are as follows:

Financial Year		***2006–07***	***2007–08***	***2008–09***	***2009–10***	***2010–11***
Percentage costs Recovered		*28.0%*	*33.5%*	*39.0%*	*44.5%*	*50.0%*
Percentage fee Increase			*49.0%*	*41.0%*	*23.0%*	*41.0%*
Base Fee		***$1.972.80***	***$2,939.47***	***$4,144.66***	***$5,097.93***	***$7,188.08***
Fire fighting equipment that: (a) includes booster connections or fixed pump sets	*25%*	*$493.20*	*$734.87*	*$1,036.16*	*$1,274.48*	*$1,797.02*
Sprinklers	*15%*	*$295.92*	*$440.92*	*$621.70*	*$764.69*	*$1,078.21*
Fire detection and alarm systems	*40%*	*$789.12*	*$1,175.79*	*$1,657.86*	*$2,039.17*	*$2,875.23*
Fire control centres or rooms	*10%*	*$197.28*	*$293.95*	*$414.47*	*$509.79*	*$718.81*
Air-handling systems	*10%*	*$197.28*	*$293.95*	*$414.47*	*$509.79*	*$718.81*

Financial Year		***2006–07***	***2007–08***	***2008–09***	***2009–10***	***2010–11***
Emergency lifts	*10%*	*$197.28*	*$293.95*	*$414.47*	*$509.79*	*$718.81*
Emergency warning and intercommunication systems	*20%*	*$394.56*	*$587.89*	*$828.93*	*$1,019.59*	*$1,437.62*
Stairwell pressurisation system	*40%*	*$789.12*	*$1,175.79*	*$1,657.86*	*$2,039.17*	*$2,875.23*
Subtotal x2		***$10,653.12***	***$15,873.15***	***$22,381.14***	***$27,528.80***	***$38,815.61***
Research Fee (2 to 5 subsystems)		*$355.81*	*$530.15*	*$747.51*	*$919.44*	*$1,296.41*
Design brief consultation fee		*$680.67*	*$1,014.20*	*$1,430.02*	*$1,758.93*	*$2,480.09*
Assessment and Inspection Fee Total		***$11,689.60***	***$17,417.50***	***$24,558.67***	***$30,207.17***	***$42,592.11***
During construction, the certifier requires a meeting with the Queensland Fire and Rescue Service to discuss the removal of sprinklers from the balconies on levels 2 through to 7. This minor performance consultation meeting incurs the following charge. ***(New fee)***		***$329.55***	***$491.03***	***$692.35***	***$851.59***	***$1,200.75***
Amended plans are submitted to the Queensland Fire and Rescue Service for reassessment. The reassessment takes three hours (using the hourly rate, or part of, during which the service assesses amended plans. ***(New fee)***	*Hrly rate*	*$126.80*	*$188.93*	*$266.39*	*$327.66*	*$462.01*
	3	***$380.40***	***$566.79***	***$799.17***	***$982.98***	***$1,386.03***

The building achieves a stage of substantial completion and an application is made to Queensland Fire and Rescue Service to inspect the building. An inspection is carried out and the building is found to have some areas of non-compliance and is now subject to a reinspection.

		2006–07	***2007–08***	***2008–09***	***2009–10***	***2010–11***
		28.0%	*33.5%*	*39.0%*	*44.5%*	*50.0%*
The Queensland Fire and Rescue Service reinspects this building, which takes three hours incurring the following charges. (The flat rate for the first hour and the hourly rate for each additional hour or part thereof, for the inspection. ***(New fee)***	*Flat rate*	*$253.55*	*$377.79*	*$532.68*	*$655.20*	*$923.83*
	Hrly rate	*$126.80*	*$188.93*	*$266.39*	*$327.66*	*$462.01*
	2	***$507.15***	***$755.65***	***$1.065.46***	***$1,310.52***	***$1,847.85***
The total amount for this application		***$12,906.70***	***$19,230.97***	***$27,115.65***	***$33,352.26***	***$47,026.74***

Attachment B

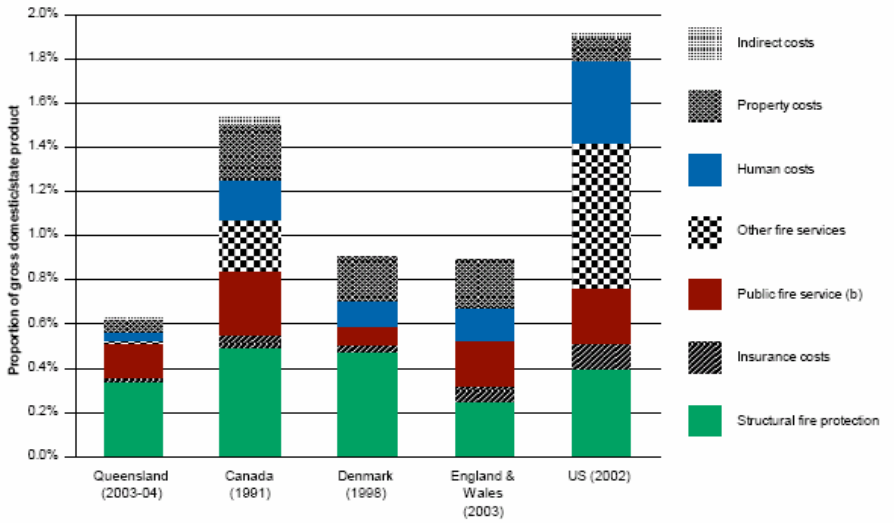
Economic structure of fire protection in Queensland

The costs and benefits involved in the maintenance of fire safety systems in buildings are best considered in the context of the total investment in fire protection.

In 2003–04, the total quantifiable cost of fires in Queensland was $904 million or 0.6% of gross state product. This represents more than $233 for every Queensland resident. In comparison to other countries that have undertaken studies that estimated fire costs (Canada, Denmark, England and Wales, and the US), Queensland had the lowest fire costs (Figure 1) and spent the highest proportion of costs in anticipatory costs (Figure 2). These anticipatory costs include protection and prevention measures undertaken to prevent or mitigate the damage caused by fire (includes maintenance of fire safety installations). The analysis suggests that a

consequence of the current high preparedness spending in Queensland is that individuals incur a relatively low proportion of the economic costs of fire, for example injury, loss of life or property loss[4].

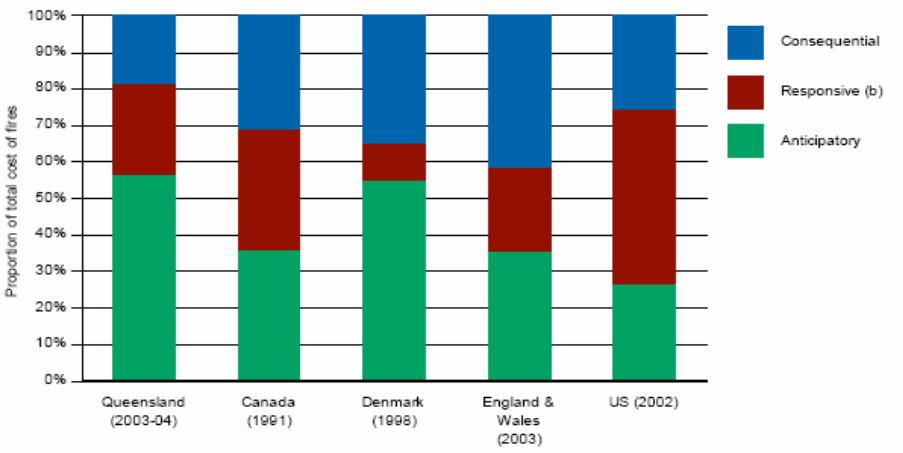
COMPARISON OF QUEENSLAND AND OVERSEAS FIRE COSTS (LATEST YEARS) (a)



Notes: (a) Only the cost categories that were quantified in this study are compared. (b) For comparison, this category includes both fire safety activity and fire response activity. Source: P. Schaenman, J. Stern and R. Bush 1995, *Total Cost of Fire in Canada: An Initial Estimate*, National Research Council of Canada, February; K. Moller 2001, *The Socio-economic Costs of Fire in Denmark*, Danish Emergency Management Agency, Birkerod, Denmark; Office of the Deputy Prime Minister 2005, *The Economic Cost of Fire: Estimates for 2003*, London, March; J. Hall 2004, *The Total Cost of Fire in the United States*, National Fire Protection Association, Quincy, Massachusetts p. 3.

4 The Allen Consulting Group, 2005, *Up In Smoke – The Economic Cost of Fires in Queensland*

COMPARISON OF THE RELATIVE SIZE OF THE COMPONENT COSTS (a)



Notes: (a) Only the cost categories that were quantified in this study are compared. (b) For comparison, this category also includes fire safety activity undertaken by fire services. Source: P. Schaenman, J. Stern and R. Bush 1995, *Total Cost of Fire in Canada: An Initial Estimate*, National Research Council of Canada, February; K. Moller 2001, *The Socio-economic Costs of Fire in Denmark*, Danish Emergency Management Agency, Birkerod, Denmark; Office of the Deputy Prime Minister 2005, *The Economic Cost of Fire: Estimates for 2003*, London, March; J. Hall 2004, *The Total Cost of Fire in the United States*, National Fire Protection Association, Quincy, Massachusetts p. 3.

The economic costs incurred as a result of fires in Queensland in 2003–04 are categorised into the following three principal groups, as illustrated in the above graph:

- anticipatory costs – these are predominantly protection and prevention measures undertaken to prevent or mitigate the damage caused by fire;
- responsive costs – these are the costs of extinguishing and clearing up after fire; and
- consequential costs – these are costs incurred directly as a result of fire. More specifically, these costs are the result of the exposure of property, individuals or the environment to fire and its products[5].

5 The Allen Consulting Group, 2005, *Up In Smoke – The Economic Cost of Fires in Queensland*

These costs are described in more detail below:

Anticipatory costs – industry totals for maintenance

The proposed regulation principally continues current anticipatory costs, on account of its requirement for fire safety systems to be maintained. The Allen report estimates that the 2003–04 total anticipatory costs of fires in Queensland amounted to $599.6 million. The report specifies that no independent estimate of maintenance costs in non-residential buildings was available; it only provides an estimate of at least $5.0 million (included within the total anticipatory cost amount of $599.6 million) that was spent on maintaining both active and passive fire protection installations in residential buildings. The Allen report also references another industry report (IBISWorld 2004), which provides an estimate of the revenue for commercial fire protection maintenance services provided by specialist companies in Queensland in 2003–04, which was approximately $276 million, however this includes some installation services. No independent estimate of maintenance costs is available.

Anticipatory costs – maintenance in government buildings

As no specific studies could be located with regard to the average amount spent *per building* on maintaining prescribed fire safety installations in Queensland, the Department of Public Works was requested to provide advice. A desk top assessment of available data on government-owned buildings in South East Queensland was undertaken. For the 2005/06 year, approximately $3.2 million was spent on maintaining prescribed fire safety installations in 540 buildings, which is an approximate average of $6,000 per building. However it should be noted that this includes some buildings unique to government such as correctional centres, TAFEs/colleges, courts, police, fire and ambulance stations and public schools. The average spent on maintaining prescribed fire safety installations in office buildings was approximately $20,000 per building.

Anticipatory costs – training and preparedness

Another report, which was prepared for the National Research Council of Canada, notes that no previous studies have considered the total cost of fire in terms of all of the costs of operations and training attributable to fire safety in addition to the costs of fire safety built into products. There are many person-hours spent on fire and evacuation planning and training, such as fire drills in businesses and institutions. The report also notes that additional time is spent by workers evacuating buildings in response to false alarms, which could be a relatively significant cost. Non-trivial

amounts of money are also spent training industrial employees on fire safety, that is, how to prevent fires and what to do if a fire occurs. This report provides a best estimate of $300 million spent annually on fire-safe operations and training in Canada. It could be assumed that Queensland would also be likely to incur a substantial cost (in the order of say $50 million) applicable to fire-safe operations and training.

Attachment C

Recent brief history of regulation of fire safety in Australia

The first national building code was developed in 1990 and subsequently adopted by all the states and territories of Australia. A performance based building code published in 1996 (Building Code of Australia 1996) was subsequently adopted by all states and territories. Queensland adopted this code in Queensland on 1 July 1997. The performance-based code permits buildings to comply with the performance requirements by the following two methods:

- by following the specific "deemed to satisfy" requirements set out in the code; or
- by adopting an alternative building solution that complied with the performance requirements.

The introduction of a performance based building code is significant from the perspective of maintaining building fire safety standards. Alternative buildings solutions are commonly used in commercial building design and approval and the most common area in which they are used is in relation to fire safety systems in the building[6]. There is evidence which suggests that alternative solution based designs tend to make buildings less expensive to build but more expensive to maintain[7]. The widespread use of alternative building solutions means that ongoing maintenance of buildings throughout their life cycle increases in importance.

6 Australian Productivity Commission, 2004 *Reform of Building Regulation,* Research Report, p 218

7 KPMG, 2000 *Impact Assessment of Major reform Initiatives- Final Report*

The maintenance requirements in both the current and proposed regulation are significantly influenced by relevant Australian Standards. The proposed regulation takes account of developments in relevant Australian Standards that have occurred since the regulation commenced in January 1992. In relation to the maintenance of fire safety equipment Standards Australia published a significantly revised standard in 2005. The proposed regulation is also more closely aligned with the Australian Standard dealing with emergency evacuation plans and procedures (AS 3745-2002).

Attachment D

Cost benefit analysis of sections under the consultative draft version of the *Building Fire Safety Regulation 2007* that has an appreciable cost

Identification and classification of impacts

Quantitative cost benefit material is generally not available, though there is some cost data that can assist stakeholders to make an assessment of the impact in their particular circumstances. Therefore, a largely qualitative approach to the cost/benefit analysis has been adopted, supplemented by quantitative material where that material is available.

The most important part of the analysis is the identification of impacts on stakeholders. The table below:

- Identifies each relevant stakeholder group;
- Estimates in largely qualitative terms (cost estimates are provided where available) the impact on each stakeholder group;
- Assesses the direction of each impact identified, i.e. a negative (cost) or positive (benefit) impact on stakeholders; and
- Estimates the magnitude of the impact on each stakeholder/group.

The magnitude of the impacts is classified using the categories of "low", "medium" and "high". In general terms the application of these categories was as follows:

- Low (L) – an impact that is noticeable but has only a limited affect on the day to operations, financial position or level of safety of the stakeholder;

- Medium (M) – an impact that is certainly noticeable and has a more substantial impact on the day to day operations, financial position or level of safety of the stakeholder; and
- High (H) – an impact that has the potential to significantly impact on the day to day operations, financial position or level of safety of the stakeholder.

Areas of the regulation that may have an appreciable impact on stakeholders	Impact	General Community	Property Industry	Fire Protection Industry	Qld Govt Agencies	Overall Impact	Comments
Section 10 – Signs on final exit doors ('Fire Safety Door—Do Not Obstruct' and 'Slide')	Cost	Nil	M–	Nil	M	M–	The Building Code of Australia (D2.23) contains a requirement for buildings built since 1 July 1997 to have signs on fire safety doors stating that the door must not be obstructed. Therefore, buildings built before 1 July 1997 would be impacted by this requirement.
	Benefit	H	H	M	H	H	There is currently no legal requirement for buildings to have 'slide' signs on sliding doors, so this would impact on all buildings. The primary benefit of this requirement is to enhance the prospect of safe evacuation in the event of a fire. This will be achieved by ensuring that fire safety exit doors are not obstructed and that persons are aware of the presence of a sliding door.

Areas of the regulation that may have an appreciable impact on stakeholders	Impact	General Community	Property Industry	Fire Protection Industry	Qld Govt Agencies	Overall Impact	Comments
Section 11 – Meaning of locking a door and Section 12 – Doors on evacuation routes not to be locked—general	Cost	Nil	M–	Nil	M	M–	There is an existing requirement in the current regulation requiring that a person must not lock a door on an evacuation route of a building if another person is on the internal side of the door. Section 14C states that a door is not locked if it can be opened with a device that can be operated by only 1 downward or pushing action using 1 hand and this therefore excludes door knobs.

Areas of the regulation that may have an appreciable impact on stakeholders	Impact	General Community	Property Industry	Fire Protection Industry	Qld Govt Agencies	Overall Impact	Comments
	Benefit	M	M	L	M	M	Since 1975 in Queensland, door knobs have been prohibited on doorways or doors that are either exits or form paths of travel to exits in a building. This provision takes account of the need for an emergency opening mechanism to be operable by people with a hand or arm related disability, burns to their hands or with perspiring wet hands. This new provision would therefore only affect buildings built before 1975. Indications are that this would cost between $80-$220 per lever handle (excluding installation). The approximate labour and installation costs, based on a locksmith call-out fee and the installation of 4 lever handles, would be between $180-$220.

Areas of the regulation that may have an appreciable impact on stakeholders	**Impact**	**General Community**	**Property Industry**	**Fire Protection Industry**	**Qld Govt Agencies**	**Overall Impact**	**Comments**
Sections 18–29 – Fire and evacuation plans	Cost	Nil	L+	Nil	L	L	This is an existing requirement in the current version of the *Fire and Rescue Service Act 1990* and the regulation. Accordingly, the buildings should already have fire and evacuation plans in place. The new requirements will be described in greater detail than the obligations described in the existing regulation and owner/occupiers will have to review current plans to ensure that they accord with the revised regulation.

Areas of the regulation that may have an appreciable impact on stakeholders	Impact	General Community	Property Industry	Fire Protection Industry	Qld Govt Agencies	Overall Impact	Comments
	Benefit	H	H	M	H	H	Buildings with comprehensive Fire and Evacuation Plans (likely to be most major buildings e.g. large high rise, hospitals, shopping centres) are likely to have plans that are in line with the revised regulation. It is anticipated that plan reviews are in accordance with usual reviews and are unlikely to involve significant costs. The primary benefit of this requirement is to ensure that a building occupier has a current and written record of fire safety and evacuation procedures to ensure the safe evacuation of building occupants.

Areas of the regulation that may have an appreciable impact on stakeholders	Impact	General Community	Property Industry	Fire Protection Industry	Qld Govt Agencies	Overall Impact	Comments
Sections 32, 33 and 34 – Fire and evacuation instructions – basic and intermediate	Cost	Nil	L	Nil	L	L	Basic Evacuation Instructions mean instructions given to each building worker about the location of fire safety reference points and procedures for evacuating the building. This has no perceived additional cost, as these instructions are be provided by an existing internal employee.

Areas of the regulation that may have an appreciable impact on stakeholders	Impact	General Community	Property Industry	Fire Protection Industry	Qld Govt Agencies	Overall Impact	Comments
	Benefit	H	H	H	H	H	Intermediate Evacuation Instructions mean instructions given to each building worker about the method of operation of fire fighting equipment and manually operated fire alarms. This has no perceived additional cost, as it is assumed that these instructions, in the case of a high occupancy building, are provided by an internal employee who has been trained in Evacuation Coordination Instructions. In the case of buildings other than high occupancy buildings, these instructions may be given by the occupier (no training qualifications are required), so again there is no perceived additional cost.

Areas of the regulation that may have an appreciable impact on stakeholders	Impact	General Community	Property Industry	Fire Protection Industry	Qld Govt Agencies	Overall Impact	Comments
							The primary benefit of this requirement is that each building worker is adequately trained in necessary fire safety procedures.
Sections 35 and 36 – Evacuation coordination instructions	Cost	Nil	M	Nil	M	M–	This is an existing requirement under the current regulation, however as this training is required to be performed at least every 12 months, it will result in ongoing costs for high occupancy buildings.

Areas of the regulation that may have an appreciable impact on stakeholders	Impact	General Community	Property Industry	Fire Protection Industry	Qld Govt Agencies	Overall Impact	Comments
							It is likely that many major buildings (e.g. hospitals/high-rise buildings etc.) already have in place an evacuation system that includes regular training of fire wardens. It is unlikely that the revised regulation will have significant cost impacts for such buildings.
	Benefit	H	M	M	H	M+	The number of "appropriate" number of persons requiring training is largely dependant on the type of business in question, the number of workers in a building and the structure/layout of the building. Once the legislation is introduced, guidelines will be provided to assist organisations and businesses with determining the appropriate number of persons that require training.

Areas of the regulation that may have an appreciable impact on stakeholders	Impact	General Community	Property Industry	Fire Protection Industry	Qld Govt Agencies	Overall Impact	Comments
							The clear benefit of this requirement is that all applicable buildings have an appropriate number of trained fire wardens.
Section 37 – Fire and evacuation instruction record	Cost	Nil	L	Nil	L	L	An up-to-date written record of all fire and evacuation instructions given to workers is required to be kept. This is an existing requirement in the current version of the regulation.

Areas of the regulation that may have an appreciable impact on stakeholders	Impact	General Community	Property Industry	Fire Protection Industry	Qld Govt Agencies	Overall Impact	Comments
	Benefit	H	H	M	H	H–	Such a plan can be prepared relatively easily by the building occupier. It is not envisaged that professional services would need to be engaged to comply with this section. The primary benefit of this requirement is that there is written evidence of all fire and evacuation training that is given to building workers.
Section 38 – Evacuation training – budget accommodation buildings	Cost	Nil	L	Nil	L	L	This section, which is an existing section under the current regulation, requires that a practice evacuation of budget accommodation building occupants is carried out. This is required to be performed by the building occupier.

Areas of the regulation that may have an appreciable impact on stakeholders	Impact	General Community	Property Industry	Fire Protection Industry	Qld Govt Agencies	Overall Impact	Comments
	Benefit	H	H	M	H	H	The primary benefit of this requirement is that budget accommodation building occupants are trained in evacuation procedures, hence increasing fire safety.
Section 39 – Evacuation training – other buildings	Cost	Nil	L	Nil	L	L	The primary benefit of this requirement is that building occupants are trained in evacuation procedures, hence increasing fire safety.
	Benefit	H	H	M	H	H	The primary benefit of this requirement is that building occupants are trained in evacuation procedures, hence increasing fire safety.

Areas of the regulation that may have an appreciable impact on stakeholders	Impact	General Community	Property Industry	Fire Protection Industry	Qld Govt Agencies	Overall Impact	Comments
Section 42 – Signs to be displayed in accommodation units	Cost	Nil	L	Nil	M	L+	This is an existing requirement in the current version of the regulation (section 14) and it is not proposed to change this current stakeholder group, which is all accommodation units in Queensland (class 3). Accordingly, the applicable buildings should already have the required fire and evacuation signs on their exit doors. The only impact would be on any newly built commercial buildings, however given the cost of the signs, it is viewed that this would not be a significant cost.
	Benefit	H	H	M	H	H	The primary benefit of this requirement is that building occupants are aware of the evacuation route, hence increasing fire safety.

Areas of the regulation that may have an appreciable impact on stakeholders	Impact	General Community	Property Industry	Fire Protection Industry	Qld Govt Agencies	Overall Impact	Comments
Part 5, sections 44, 45, 46 and 48 – Maintenance of prescribed fire safety installations and Part 5, sections 43, 47 and 49 – Reporting significant critical defects	Cost	Nil	M+	L	M	M–	These sections reflect existing requirements under the current regulation, however as maintenance is required to be performed on an ongoing basis, it will result in ongoing costs for all applicable. The maintenance obligations have been expanded to require that contractors carry out maintenance to an acceptable standard.

Areas of the regulation that may have an appreciable impact on stakeholders	Impact	General Community	Property Industry	Fire Protection Industry	Qld Govt Agencies	Overall Impact	Comments
							The primary benefit of this requirement is to ensure that all prescribed fire safety installations are in good working order, hence increasing fire safety. S 43, 47 and 49 are new. The sections require fire protection contractors to provide notice to occupiers of significant defects in fire safety equipment that present a life safety risk.

Areas of the regulation that may have an appreciable impact on stakeholders	Impact	General Community	Property Industry	Fire Protection Industry	Qld Govt Agencies	Overall Impact	Comments
	Benefit	H	H	H	H	H	There is an existing obligation under AS 1851-2005 for contractors to notify occupiers of critical defects. The new obligation varies from this in that notification is only required where the defect is reasonably likely to have a significant adverse effect on life safety in the event of a fire. The occupier is obliged to notify the QFRS if the defect is not rectified in 5 days. In view of the existing obligation under AS 1851-2005 it is not anticipated that this obligation will impose any significant costs on occupiers or contractors.

Areas of the regulation that may have an appreciable impact on stakeholders	Impact	General Community	Property Industry	Fire Protection Industry	Qld Govt Agencies	Overall Impact	Comments
Section 64 – Keeping certain plans and records	Cost	Nil	L	Nil	L	L–	This is an existing requirement under the current version of the regulation. It is not being proposed to change this current stakeholder group. Accordingly, the applicable buildings should already have a secure, fire-proof storage facility to store the applicable documents. The only impact would be on any newly built commercial buildings, however this would not be a significant cost.
	Benefit	M	H	L	H	M+	The key benefit of this requirement is that applicable fire safety documents are preserved in the event of a fire.

Areas of the regulation that may have an appreciable impact on stakeholders	Impact	General Community	Property Industry	Fire Protection Industry	Qld Govt Agencies	Overall Impact	Comments
Part 6 Proposed fees increases, introduced incrementally over the period 2007–08 to 2010–11 Introduction of 5 new fees to provide fees for regulatory actions currently provided free of charge	Cost	Nil	M	Nil	L	M	The current version of the regulation contains provisions for charging fees for special fire services. With demand for building fire safety services projected to increase by 34.5% to 2021 the additional resourcing enabled by increased cost recovery will assist in ensuring the Queensland Fire and Rescue Service's capacity to continue to provide this service to industry in a timely manner.

Areas of the regulation that may have an appreciable impact on stakeholders	Impact	General Community	Property Industry	Fire Protection Industry	Qld Govt Agencies	Overall Impact	Comments
	Benefit	M	H	Nil	L	H	The 5 new fees are identified and described in Attachment E.

Attachment E

PART 6 – FEES FOR ASSESSMENT AND INSPECTION OF SPECIAL FIRE SERVICES – PROPOSED NEW FEES

Section Number	Proposed New Fee	Explanation
57 and 58 and Schedule 2, Part 3	Assessment, inspection and other fees—fire engineering design brief	The design brief meeting fee covers three meetings at no charge, being 1. Preliminary meeting; 2. Development meeting; and 3. Final meeting. The use of alternative solution is increasing and in many cases becoming significantly more complex and comprehensive in the design. In many cases, the negotiation process is increasing often easily exceeding the planned meeting process. In some instances, the Queensland Fire and Rescue Service has been required to attend 8–10 meetings. It is therefore proposed to introduce a new fee applicable to more than three meetings, to be charged at an hourly rate.
69	Preliminary meeting fee	The Queensland Fire and Rescue Service currently participates in these preliminary meetings, the purpose of which is to discuss building development applications. The Queensland Fire and Rescue estimates that each of its Building Approval Officers would be involved in up to ten of these meetings per year, which amounts to approximately 300 meetings across the state per year.
61	Interim inspection fee for required special fire services	The Queensland Fire and Rescue Service currently performs these inspections (preliminary inspection of a required special fire service) but does not charge.

Section Number	Proposed New Fee	Explanation
62	Fee for inspection of a required special fire service for a temporary building	Under section 64 of the *Building Act 1975* a building certifier must obtain a report from the Queensland Fire and Rescue Service on the suitability of the proposed fire services for a temporary building or structure. The Queensland Fire and Rescue Service currently performs this service at no charge. It is envisaged that this proposed new fee would have a negligible financial effect, as these particular inspections are not common.
64	Fee for inspection of a special fire service for approving a BCA classification change	Under section 112 of the *Building Act 1975* a building certifier must not approve a change of classification for particular buildings containing special fire services without first receiving a report from the Queensland Fire and Rescue Service. Again, the Queensland Fire and Rescue Service currently provides this service at no charge. It is envisaged that this proposed new fee would have a negligible financial effect, as these particular inspections are not common.

ENDNOTES

1 Laid before the Legislative Assembly on . . .

2 The administering agency is the Department of Emergency Services.