



Queensland

Building Fire Safety Regulation 2008

Explanatory Notes 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

General Outline

Title

Building Fire Safety Regulation 2008

Authorising law

Part 9A and Part 11 of the *Fire and Rescue Service Act 1990*

Chapter 4, Part 1 of the *Building Act 1975*

Policy objectives of the legislation

The *Building Fire Safety Regulation 2008* repeals and replaces the *Building Fire Safety Regulation 1991* which regulation is due to expire on 1 September 2008 under the automatic expiry provisions of the *Statutory Instruments Act 1992*. The overall policy objectives of the new and repealed regulations are identical, although the new regulation enhances the achievement of those objectives.

The policy objective of the *Building Fire Safety Regulation 2008* (the regulation), and also of the repealed *Building Fire Safety Regulation 1991*

is to ensure that buildings continue to provide the fire safety performance for which they were originally designed and built; to ensure that persons can evacuate from buildings safely in the event of fire; and to prescribe fees for the assessment and inspection of special fire service and fire engineering design briefs.

The regulation is subordinate to the *Fire and Rescue Service Act 1990* (the Act) and the *Building Act 1975*. The regulation deals with all building stock in Queensland except single detached dwellings and those on mine sites

The building regulatory system established by the *Building Act 1975*, *Building Regulation 2005*, *Integrated Planning Act 1997*, *Integrated Planning Regulation 1998* and the Building Code of Australia (BCA) establishes the standards to which buildings, including the fire safety features and equipment in buildings, are designed, constructed and approved. It is not sufficient, however, that a building is built to an acceptable fire safety standard. If those building fire safety standards are not proactively maintained over the life of the building then the building will cease to provide the level of safety for which it was designed.

Further, the regulation is enforced by the Queensland Fire and Rescue Service (QFRS) and this close involvement of the fire service in day to day compliance serves a critical function that serves the objectives of the regulations as stated in clause 4 of the regulations.

Fire officers are in buildings on a daily basis. They conduct building familiarity inspections, especially for at risk buildings; as well as compliance inspections. These inspections are part of a structured process that delivers officers at station level a daily inspection program. These inspections are supplemented by assistance from specialist officers who have training and experience in building matters and who can provide specialist advice to station based fire-fighters on request. This close involvement with buildings in general, and the maintenance standards that apply to buildings in particular, helps fire-fighters to gain a certain, albeit partly intuitive, knowledge of how buildings in general (and the particular buildings in the particular fire-fighter's area) work. It would be difficult to gain this experience any other way than via the current compliance and inspection regime. This knowledge can be critical in the limited time and knowledge parameters that often attend emergency situations.

The most significant reform effected by the regulation is an improved fire and evacuation framework and the creation of a Fire Safety Adviser (FSA)

requirement for specified high occupancy/risk occupancies. The regulation requires that businesses with 30 or more employees and those in defined high risk occupancies buildings appoint and train at least one employee as an FSA. An FSA may co-ordinate fire safety management plans, fire and evacuation plans, procedures, review and practice, and give or arrange instruction to staff on evacuation and the operation of firefighting equipment. The proposal is low impact in that there is flexibility available to occupiers and owners concerning the number and role of fire safety advisers.

A number of recent events and subsequent investigations and research assist in understanding the importance of building evacuation and why regulations such as this one are necessary.

On February 20, 2003 fire destroyed The Station nightclub at Rhode Island, United States of America (USA). Egress from the nightclub was hampered by crowding at the main entrance to the building and the majority of the 100 victims were crushed to death near the entrance in trying to evacuate to a place of safety. This incident graphically illustrates what can happen in the chaotic conditions that ensue in trying to escape from a fire to a place of safety. Some of the survivor accounts of this fire bear repetition. The following survivor accounts are extracted from the June 2005 US National Institute of Standards and Technology *Report of the Technical Investigation of the Station Nightclub Fire*.

"it was chaotic with people coming from two directions into foyer, like a funnel. The smoke came in. [The occupant] started pushing and shoving his way to the front; 'I could feel myself walking over' people; he could feel the heat on his back. Front doors were open. He was almost out when he tripped over someone who had fallen, and was laying perpendicular to the front door. [The occupant] caught himself but as he was halfway up, people behind him fell on top of him.... 30-35 people were on him. Half his body was out of the door. His waist was where the door was. [He] felt himself being yanked back in. He grabbed the bottom metal bar [outside the main entrance]... Finally, [on the] third or fourth pull, [the occupant's] other shoe popped off and he came sliding out."

"As the mass followed the most direct route to the doors, [the survivor] detoured around a free-standing wall, and rejoined the river of people on the other side. The force of the crowd behind him was growing. He almost made it to the exit. He tried to stay upright by putting his hands on the person in front of him, but the pressure from

behind overwhelmed him. He fell to the floor, two feet from the door. He rolled over to his side and curled up into the fetal position. 'People were piling up on top of me and I could feel the press of people,' he said.... He could breathe in cool, fresh air. He wasn't even hot. But he couldn't move. 'It felt like a football pileup,' he said... 'I didn't want to move because I didn't want the pile to topple on me,' he said. 'I had air and I didn't feel any heat. I wasn't crushed or feeling crushed. I was in a relaxed state. I just felt calm and focused... I knew it was bad because we were stuck there, but I didn't know how bad,' he said. Finally, he felt the load above him lighten as fire-fighters searched for survivors. He saw a fire-fighter's boot and reached for it. The fire-fighter gripped him and wouldn't let go... It took a couple of tugs and [he] was freed."

The events of September 11, 2001 in New York, USA, have drawn attention to the issue of emergency building evacuation. A recent US report by the Fire Protection Research Foundation titled *Public Perceptions of High-Rise Building Safety and Emergency Evacuation Procedures Research Project* investigated some of these issues, at least as they relate to High-Rise buildings.

The research report found that:

- The top two of all safety concerns among the 472 building occupants surveyed for the research were, first "being in a car crash" and second, for resident occupants being injured in a fire in the building, and for commercial building occupants, "being injured in a single family home fire";
- Out of 6 possible events, commercial and residential occupants ranked fire as the most likely cause of a building evacuation;
- Residential occupants (particularly with fire drill experience and those on lower floors) are more likely to ignore a false alarm "because they know it's false" and open their door to evacuate even if there is smoke outside that door. The report identified that these occupants have a false sense of security that could lead to potentially dangerous behaviour during an emergency.
- The value of fire drill experience cannot be overstated. Respondents were generally in agreement that fire drills are important with 83% of commercial building respondents reporting that they had participated in a fire drill in the last year, compared to only 19% of residential building respondents.

The September 2005 US National Institute of Standards and Technology report, *Federal Building and Fire Safety Investigation of the World Trade Centre Disaster*, contains a detailed analysis of occupant behavior, evacuation and emergency communications in response to the September 11 evacuation of the World Trade Centre. The report found:

- Computer egress modeling indicated that a full capacity evacuation of a single World Trade Centre Tower with approximately 20 000 occupants required a minimum evacuation time of 1 hour and 50 minutes. Based on the actual evacuation time of occupants on September 11 2001, had both buildings been at full capacity of 20 000 on that day evacuation would have taken more than 3 hours and about 14 000 occupants may have perished in the building collapses; and
- 100 people in the World Trade Centre 1 delayed or interrupted their evacuation resulting in over 100 deaths below the impact region.

How policy objectives are achieved

A building cannot perform to the safety standards to which it is built without consistent and ongoing attention to maintaining the means of escape and fire safety installations and equipment. The remade regulation 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 that they are responsible for are safe for workers and the general community that uses buildings.

Additionally the requirement for specified building occupiers to appoint and train a FSA will enhance occupant awareness about fire safety, understanding compliance with the legislation, and how to ensure the safe evacuation of all occupants in the event of fire.

Alternative method of achieving the policy objectives

The Department of Emergency Services (DES) consulted with the community through the release of a Regulatory Impact Statement (RIS) which outlined policy options and detailed the benefits and costs of each option.

The RIS reviewed three options to ensure proper maintenance of fire safety systems in buildings. Firstly, not replacing the regulation on expiry and

secondly, the status quo with the existing regulation being remade without change. Finally, and thirdly, the preferred option of a new regulation with incremental changes to improve fire safety evacuation arrangements, provide a framework to ensure that fire safety management procedures specified at the building approval stage were available to, and implemented by, owners and occupiers, better ensure the integrity of fire isolated compartments, increase the fire safety installation defect reporting obligations of fire protection maintenance contractors and a range of other improvements.

Most buildings do not experience serious fires. This can lead to complacency about maintaining adequate fire and evacuation plans, keeping evacuation routes free of obstruction and maintaining fire safety equipment and installations such as fire isolation compartments, fire doors and sprinkler systems. However, if a fire does occur the risk to occupants and attending fire officers can be dramatically increased if people cannot get out of the building in a reasonable time period because the proper maintenance regimes are not in place.

In summary, to remove the regulation would be to undermine the policy intent to ensure that occupants can evacuate quickly and safely in the event of fire, that adequate safety standards are designed into buildings and that building fire safety features are maintained to an acceptable standard.

The current 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 with a potential for significant increase in the risk of death, injury or property loss caused by fire.

Consistency with the policy objectives of the 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 Act).

Benefits and costs of implementing the legislation

Government agencies estimated the cost of implementation of the changes outlined in the RIS at \$21.3 million. Making assumptions based on the size of government building stock as a percentage of private sector building

stock, the private sector impact was estimated at \$34.1 million, providing a total cost impact of \$55.4 million.

The cost impact of new initiatives was subsequently substantially reduced, largely as a result of modifications suggested by private sector entities, including in particular the fire protection industry, Queensland Retailers and Shopkeeper's Association and the Real Estate Institute of Queensland; and government agencies, including in particular Queensland Health (QH), the Department of Industrial Relations and Employment, Workplace Health and Safety division, the Department of the Premier and Cabinet and Queensland Treasury, aimed at more effectively achieving underlying policy objectives and improving clarity and workability.

These changes have substantially reduced the cost impact of the regulation without unduly detracting from, and in point of fact, markedly improving the effective and efficient achievement of the building fire safety policy objective. The revised total cost impact for government and private sector buildings of new initiatives introduced by the regulation is estimated to be \$15.1 million, comprised of \$5.8 million for government owned and occupied buildings and \$9.3 million for the private sector.

This is the estimated cost impact of the *new* changes introduced by the regulation. In practical terms the actual cost impact is expected to exceed this amount to take account of the prospect (indicated as a reasonable possibility by the results of the consultation process) that some occupiers and owners are not aware of their existing building fire safety obligations under the Act and the *Building Fire Safety Regulation 1991*. Such owners/occupiers may for the first time, or the first time properly, be made fully aware of building fire safety obligations that were established in the Act and the *Building Fire Safety Regulation 1991* and carried forward into the regulation. Enhanced compliance is reasonably likely by reason of : the mix of detailed requirements and flexibility within the regulation, the comprehensive implementation arrangements, the enhanced compliance capacity developed by the QFRS, especially since the Childers Palace Backpackers fire in June 2000 in which 15 young people perished; and the broader civil and criminal legal implications of non-compliance.

Consistency with Fundamental Legislative Principles

The regulation has been drafted with regard to fundamental legislative principles as defined in section 4 of the *Legislative Standards Act 1992 (LSA)*.

The regulation does not 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 mandatory maintenance work to be carried out in accordance with those standards, 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.

The policy objectives of the regulation are consistent with the building fire safety objectives of the Act which establishes the QFRS and gives to the Service a range of responsibilities in terms of fire safety and gives to occupiers a set of core responsibilities to maintain means of escape, maintain fire safety installations, maintain a fire and evacuation plan and provide instructions to persons working and residing in buildings. It also 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.

The regulation is not inconsistent with any other Queensland legislation.

Whether subordinate legislation has sufficient regard to the institution of Parliament depends on whether, for example, the subordinate legislation contains only matters appropriate to subordinate legislation (LSA,s. 4(5)(c))

The regulation creates a range of offences relating to the building fire safety matters dealt with in the regulation. The regulation also amends the *State Penalties Enforcement Regulation 2000* (SPERS regulation), to list a number of offences that meet the SPER criteria to enable the issue of infringement notices. The majority of the offences created by the regulation and prescribed in the SPER regulation carry a maximum penalty of 30 penalty units, which is within the regulation making power in the Act. The Scrutiny Committee, however, has adopted a formal policy (see Policy No. 2 of 1996, Alert Digest No 4 of 1996) that maximum penalties prescribed in subordinate legislation should be limited to 20 penalty units.

The *Building Fire Safety Regulation 1991* (which was repealed and replaced by the regulation) has since commencement contained offences carrying a 30 penalty unit penalty relating to the same underlying fire safety policy objectives as the regulation. Essentially the regulation carries the 1991 regulation level of penalty, without increase notwithstanding inflation, over to the 2008 regulation. The regulation relates to critical life safety issues and, in addition, the building owners/occupiers and building professionals affected by the regulation are familiar with this level of penalty by virtue of the QFRS building compliance program mentioned earlier in this Note.

The regulation also makes consequential changes to the *Queensland Building Services Authority Regulation 2003*.

Consultation

The regulation places fire safety obligations mainly but not exclusively on the occupiers and owners of buildings, and fire protection contractors are also subject to specified obligations. It primarily 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 (QBSA), which licenses fire protection specialists and consultants;
- 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.

During 2007 DES held 11 consultation workshops with QFRS staff members and nine public workshops around the State. Public notices were placed in 13 newspapers around Queensland and in the government gazette advising of the availability of the RIS, calling for submissions and advising details of the public workshops to explain the proposals. The RIS included a consultation draft of a proposed regulation in accordance with the preferred option identified in the RIS. The consultation draft of the regulation and the RIS were published on the DES and QFRS websites, together with a facility to provide feedback via email submissions.

Regular updates were provided to stakeholders via email and on the QFRS website and numerous discussions were undertaken with individual stakeholders on particular points of interest and concern.

A mail out of the consultation draft and the RIS were sent to all government departments and 41 peak stakeholder organisations listed below.

- Aged Care Queensland
- Air-conditioning and Mechanical Contractors Association of Australia
- Australasian Fire Authorities Council
- Australian Institute of Building
- Australian Institute of Building Surveyors
- Board of Architects of Queensland
- Board of Professional Engineers of Queensland
- Boarding House Owners and Managers Association
- Building Services Authority
- Clubs Queensland
- Community Titles Institute of Queensland

- Construction Forestry Mining Energy Union
- Engineers Australia
- ESAC
- Fire Protection Association Australia
- Fire Protection Industry Board
- Hotel Motel and Accommodation Association of Queensland
- Local Government Association of Queensland
- Locksmiths Guild of Queensland
- Master Plumbers Association of Queensland
- National Fire Industry Association
- Property Council of Australia
- Property Owners Association of Qld
- Queensland Backpacker and Independent Travel Industry Association
- Queensland Bed and Breakfast Association
- Queensland Disability Housing Coalition
- Queensland Fire Protection Industry Association
- Queensland Hotels Association
- Queensland Public Tenants Association
- Queensland Resident Accommodation Managers Association
- Queensland Retail Traders and Shopkeepers Association
- Queensland Shelter
- Real Estate Institute of Queensland
- Residential Tenancies Authority
- Rural Fire Brigades Association of Queensland
- Society of Fire Safety Queensland
- Unit Owners Association of Queensland
- United Firefighters Union
- Urban Development Institute of Australia

- Venue Management Association
- Youth Hostels Association of Australia

Submissions received suggested a range of changes aimed at more effectively achieving underlying policy objectives and improving clarity and workability of the technical requirements and the regulation was adjusted to take account of the knowledge acquired in the consultation process. The main issues identified in submissions and workshops are summarised below.

Upgrade of internal building fire safety skills and advice

The costs, benefits and alternative options in relation to the proposed upgrading of building fire safety skills and advice in the possession of building occupiers and their staff; in particular, whether there were lower impact and more pragmatically manageable alternatives to the proposals contained in the RIS;

Coordination of evacuation arrangements in multi-tenanted buildings

Improving the coordination of evacuation arrangements in multi-tenanted buildings;

Knowledge transfer regarding alternative solutions

How to best ensure that relevant alternative solution conditions were made known to, and implemented by, the owner/occupier of a building;

Fire safety obligation base

Whether the obligation base, where the majority of fire safety obligations were reposed on the occupier, was too narrow;

Reporting Significant critical defects

Whether the reporting requirements proposed in the consultation draft of the regulation in relation to "significant critical defects" to fire safety installations would work in practice, and whether there were more workable alternatives to ensuring appropriate building fire safety information was provided to and auctioned by occupiers and the fire service;

Building Maintenance Australian Standards

- The costs, benefits and workability provided by the primary Australian Standard (AS 1851-2005) that sets the maintenance

requirements for fire safety systems, especially as regards maintenance of passive fire and smoke containment systems;

- The application and location of AS 1851-2005; in particular, whether these requirements should be consolidated with other building performance requirements and located within the Queensland Development Code (QDC) rather than the regulation;

Transitional Arrangements

Transitional arrangements to allow sufficient time for occupiers and owners to undertake the adjustments necessary to implement proposed changes, especially as regards, fire and evacuation plan review and development, more comprehensive fire safety instructions and the appointment and training of fire safety advisers.

Results of consultation

Upgrade of internal building fire safety skills and advice

The RIS proposal that all occupiers of high occupancy buildings ensure that building fire wardens possess an accredited fire safety qualification (cost about \$350, Time: one day) accounted for most of the anticipated cost impact. Queensland Health, which manages a substantial building stock, suggested that the training proposal would be costly to implement and would not achieve its underlying fire safety objective. QH estimated that up to 11000 staff, mainly nurses, would have to do the course, with an anticipated 40% annual turnover rate.

Stakeholders in the retail sector also suggested that it was important that the impact on small business be carefully considered and suggested that it would greatly aid effective implementation if the fire safety qualification proposal was more closely aligned to risk and more closely integrated with other safety regulations to which small businesses were subject.

The fire protection industry also suggested a closer risk alignment.

The Real Estate Institute of Queensland acknowledged that evacuation planning is an important component of building fire safety but did not believe that evacuation practice was necessary in high or low rise residential buildings as many residents are absent during the day and, in the case of holiday letting, many of the guests are short term visitors. However the Institute did believe that annual review of the fire and evacuation plan would be beneficial to residents and tenants.

These submissions and the experience that they represent have been taken into account in the regulation. The skills upgrade proposal contained in the consultation draft has been replaced with a requirement for specified high risk occupancies (Class 2 and 3 buildings over 25m in height, occupancies with more than 30 staff, identified high risk nightclubs) to appoint an FSA.

An FSA may arrange delivery of specified fire safety instructions, liaise in the development of fire and evacuation plans as well as plan, review and practice fire drills.

It is anticipated that an FSA on staff will, over time, improve fire safety in buildings. It will also create a class of persons for delivery of the QFRS fire safety message and address some of the building owner/occupier fire safety knowledge and compliance deficiencies identified in the consultation process.

The FSA is required to obtain a fire safety qualification. It is likely that the course required to obtain the qualification will take 3 or 4 days. The course incorporates nationally accredited competencies and will be available for delivery by Registered Training Organisations.

QH, which from a fire safety perspective is a high risk occupancy with sophisticated systems and fire safety experts, estimated that it will require 100 FSA's. QH is likely to utilise its existing network of 700 workplace health and safety advisors as the pool from which the fire safety advisors are selected. It is anticipated that others will do likewise.

Coordination of evacuation arrangements in multi-tenanted buildings

The regulation requires that the owner or body corporate (whatever the entity responsible for the whole building) of a multi tenanted building ensures that evacuation arrangements for the whole building are integrated and that the evacuation plan is practiced on an annual basis.

Knowledge transfer regarding alternative solutions

There were no changes to the proposed requirement that relevant approval documents be obtained and kept with the fire and evacuation plan, as it is felt that the benefits of this requirement are clear. The requirements for alternative solution conditions to be included in fire and evacuation plans have been clarified and a range of examples provided.

Reporting Significant critical defects

The RIS proposed a requirement for fire protection maintenance contractors to notify the Commissioner of critical defects in fire safety installations and this was much discussed by stakeholders. It was considered that such a requirement would create an administrative reporting burden for occupiers and the fire protection industry, not sufficiently outweighed by the benefits and therefore that requirement was removed. However, the obligation for contractors to notify occupiers of defects has been retained.

Transitional Arrangements

A transition period of 12 months is allowed from commencement for some aspects of the new regulation (such as fire and evacuation plan review, evacuation instructions and the appointment and training of FSAs in identified high occupancies).

Notes on provisions

Part 1 Preliminary

Clause 1 states that the regulation is called the *Building Fire Safety Regulation 2008*.

Clause 2 provides that the regulation commences on 1 July 2008.

Clause 3 states that the dictionary in Schedule 2 defines particular words in the regulation.

Clause 4 outlines the main objectives of the regulation which are to ensure that people can evacuate safely and quickly from a building in the event of fire or emergency and to ensure that prescribed fire safety installations for a building are maintained so that they can operate in the way that they were originally intended.

Part 2 Means of escape from buildings

Buildings are designed and built to ensure that occupants can evacuate when a fire or hazardous materials emergency happens. This requires that occupants are able to move to places of safety before they are threatened by heat and smoke. Smoke is the main cause of fire deaths, either by inhalation of toxic gases or carbon monoxide poisoning. It is rare for victims to be burnt to death. Approximately two thirds of fire victims appear to have fatal burns; however, almost all of these are received after death.

Minimum acceptable standards in fire safety design as contained in building codes such as the BCA and the design principles applied by fire safety design professionals identify five areas that require consideration in designing buildings that provide an acceptable level of fire safety, as follows:

1. **Prevention**- ensuring that fires do not start by controlling ignition and fuel sources;
2. **Communication**- ensuring that if ignition occurs, the occupants are informed and any active fire safety systems (such as sprinklers) are triggered;
3. **Evacuation**- ensuring that the occupants of a building are able to move to a place of safety outside the building before they are threatened by heat or smoke;
4. **Containment**- ensuring that the fire is contained to the smallest possible area, limiting the threat to life safety; and
5. **Extinguishment**- ensuring that the fire can be extinguished quickly.

(Extracted from Stollard P and Abrahams J, *Fire From First Principles- a design guide to building fire safety*, Third edition, 1999).

Part 2 addresses a subset of the evacuation consideration referred to above, namely ensuring that the evacuation routes designed into buildings are always available for use in an emergency (Division 3).

Division 1 Interpretation

Clause 5 explains that an evacuation route is a path of travel that an evacuee may use to get to a place of safety outside the building in the case of fire.

Clause 6 outlines the meaning and provides an interpretation of the meanings of common areas.

The way that the regulation achieves its aim is to ensure that the evacuation routes designed into buildings are managed so that they are always available, not obstructed and well signed.

Clause 9 - Keeping evacuation routes clear extends to occupiers in adjoining buildings who must not hinder or obstruct evacuation of their neighbours. For example, a final exit door for one building should not be obstructed by a parked courier vehicle blocking that exit while delivery is being made to the next door building.

Clause 7 provides that any person who places something in a path of travel that may hinder evacuees in the event of fire would be held responsible for obstructing an evacuation route.

Clause 8 provides that occupiers are responsible to ensure that evacuation routes and final exit areas are not obstructed or would in any way prove a hindrance to evacuating persons, and that the paths of travel are always available. S8(3) also states that the occupier is responsible to ensure that a person or people do not block an evacuation route.

Clause 11 of the regulation prohibits the locking of doors on evacuation routes and makes special exemptions for child care centres and places of lawful custody in **Clause 12**.

Concerns were raised that the provision might require upgraded locking mechanisms for doors not in common areas.

Clause 10 does not apply to all exit doors, only final exit doors. Final exit doors are those required under a development approval, exits that are signed with an exit sign or exits that are shown on evacuation diagrams for the building, and doors on the path of travel from a common area of a building through a final exit door to a place of safety outside a building. For example, the prohibition does not apply to:

- Doors not in thoroughfares (e.g. exit doors to individual residential units; doors on individual classrooms); and

- Exit doors from a building that are not approved or signed exits, or specified in the building's fire and evacuation plan as an exit.

Clause 10(3) provides that a door is not taken to be locked if it can be opened from the internal side using a device that can be operated by one downward or pushing action using one hand. This is because in times of emergency evacuation, evacuees may have sweaty, burnt or injured hands that are not capable of grasping a door knob. Doors that have locking mechanisms that do not meet this test will have to be replaced or modified to be able to meet the test.

Clause 10(3)(b) recognizes that the BCA sets the building standard and provides that a door that can be opened in accordance with any relevant BCA performance requirement is not taken to be locked for the purposes of the regulation. In other words if the locking mechanism complies with the BCA standard, it is acceptable

Clause 11 outlines that a person or persons, as well as the occupier, must not lock a door on an evacuation route if that person knows, or ought to know that there are others in the building, unless the building is a child care centre or a lawful custody building (such as a prison or watch house) - as provided for in **Clause 12**.

Some submissions during the consultation phase raised the issue of dementia wards where patients may be locked in for their own safety. The regulation makes no specific provision for dementia units.

For occupancies where there may be a practice of locking doors for the safety of patients- for example dementia units- the locking mechanism used will have to comply with the BCA and receive the necessary building approval to be acceptable.

Clause 13 obliges persons not to alter specially designed compartments that are designed to prevent the spread of fire and smoke in buildings, unless a building development approval has been granted. Examples of altering the compartments would be drilling holes in the walls for air conditioning vents (allowing smoke to move freely through that part of the building) or chocking open fire doors which are supposed to remain shut in order to prevent the spread of fire and smoke.

Clause 17(a) and (b) now provides that procedures must include instructions for alerting, and communicating with persons in the building and the fire service, together with an example.

Concern was expressed by firefighters that the provision in the consultation draft clause 17 (c) about checking whether all persons have been evacuated was not sufficiently clear.

Clauses 17 now provides examples of what such checking might entail, including taking a roll call of known occupants, advising the evacuation coordinator of the number of persons evacuated and the number and identity of any persons not accounted for and meeting attending fire officers.

Clause 18 - Evacuation diagrams

In order to facilitate consistency of description with maps that already exist and with relevant Australian Standards clause 18 clearly explains what an evacuation diagram is, what information should be included in that diagram and where in a building the diagram should be displayed.

The purpose is that evacuation diagrams should indicate (in a way that could be understood to people who may be reading or referencing them when an evacuation is under way) how, in the case of an emergency, a person could get out of the building, alert other occupants and fight a small, localized fire if necessary.

Clause 19 provides that additional arrangements should be made for evacuation procedures if occupants of the building have special needs (such as children, blind people, wheel chair bound people or those affected by liquor). The intention is that when considering or reviewing evacuation procedures, occupiers should take account of the type of people who would be likely to use their building or any building characteristics which may cause difficulties or risks during evacuation.

Clause 20 states that the requirements for fire and evacuation plans, evacuation signs and diagrams, fire and evacuation instructions for temporary events and other buildings (contained in divisions 2, 3, 5 and 6 of Part 4 do not apply to budget accommodation buildings which are subject to alternative requirements contained in the *Fire and Rescue Service Act 1990* and the *Building Act 1975*. Neither do these divisions in Part 4 apply to the occupier of a building used for conducting a residential service.

Clause 21 - Fire and evacuation plans

Clause 21 prescribes exactly what information should be required in a fire and evacuation plan and requires also that evacuation plans include (but are not restricted to):

- details of the persons responsible for developing, changing and reviewing the plan,
- the evacuation procedure and coordinators,
- the method of operation of fire fighting equipment and manually operated alarms,
- the name, content details and qualification status of the fire safety adviser for the building

New obligation to coordinate whole of building evacuation arrangements

During consultation stakeholders raised the problem of the coordination of evacuation plans and arrangements in buildings where there are a number of occupiers or tenants (for example a shopping centre or a high rise commercial building). There was previously no express obligation on the owner to coordinate the evacuation requirements for the whole building (for example making sure that the evacuation plans for separate occupancies were integrated with the whole of building plan and that the whole building undertook appropriate evacuation practice).

Clause 22 outlines that it is the managing entity (the entity responsible for the general access areas of a building, e.g. body corporate or Centre manager) who is responsible to ensure that the whole of building evacuation plan takes into account the evacuation plans of individual tenants (called secondary occupiers).

Clause 23 requires that secondary occupiers ensure that their plans are consistent with the whole of building plan.

Clause 24 and 25 - Relevant approval documents to be obtained and kept with the fire and evacuation plan

If a building has an alternative solution for a performance requirement that includes a fire safety management procedure as a condition of occupation, then that fire safety management plan must be included and reflected in the

fire and evacuation plan. Evacuation plans are critical in determining travel distances and the time allowed to evacuate. Alternative solutions are generally based on the time available for evacuation being more than the time required for safe egress.

Information received from Fire Safety Engineers indicated that it is beneficial to include an extensive list of examples of alternative solution management and use conditions to ensure that the requirement for such conditions to be included in Fire and Evacuation Plans are well understood. A range of examples were provided by fire engineers and are included.

It is noted that recent changes to the *Building Act 1975* also created a more express requirement that alternative solution conditions be included on the certificate of classification, and that the certificate be displayed and implemented. So for buildings approved and constructed after the Building Act changes, provided that the certifier has complied with the Building Act requirements, the occupier must transfer the matters from the certificate to the fire and evacuation plan. For buildings where a certificate of classification has been issued before the Building Act amendments commenced, occupiers need to extract the relevant requirements from approval documents and any fire engineering design brief.

Both the Building Act changes and the fire evacuation plan changes are aimed at ensuring that buildings are managed in accordance with any conditions or requirements imposed as part of an alternative solution.

Further, as stated in **Clause 26**, the occupier must ensure that fire and evacuation plans are available for inspection by any person during normal business hours.

Clause 27 requires primary and secondary occupiers to notify each other of any changes made to the evacuation plan as a result, for example of a refurbishment in the building or a person who is the evacuation coordinator no longer works in the building or part of the building. Clause 27(1) states that the evacuation plan should be updated within one month of the changes.

Clause 28 requires that a review of the evacuation plan must be done at regular intervals of not more than 1 year, that a written record must be kept of that review and that an FSA (if appointed) must be given a copy of that record.

Clauses 29 and 30 outline that an evacuation sign needs to show the procedures for evacuation from that part of the building and that these

signs, along with an evacuation diagram, should be displayed conspicuously along every evacuation route.

Clause 31 in Division 4 of Part 4 states that a person is a prescribed person under section 104E of the *Fire and Rescue Service Act 1990* if during the previous 3 months, there have been at least 2 weeks in which that person worked or resided in, or visited the building for a total of at least 10 hours in each week.

Fire safety instructions

Clause 32 outlines the requirements for buildings used for temporary events. A temporary event is one that lasts no longer than 3 months and occupiers are obliged to ensure that an evacuation coordinator is appointed and persons responsible for carrying out the evacuation procedures are identified and instructed before the event is conducted. Further all workers must receive general evacuation and first response instruction before they start work.

Reduction of number of person requiring qualifications and increasing quality of training

The requirement that the occupier ensure that an appropriate number of person in high occupancy buildings have a qualification and that the qualified person be able to train others was the subject of considerable discussion.

The RIS proposed that high occupancy buildings had an appropriate number of persons with an accredited fire safety qualification estimated at \$350 per person for the course. This effectively required a large number of staff to have a very basic level of accredited training, for example 2 wardens per floor in high rise and large numbers for complex and high-risk environments like hospitals.

Government departments made submissions concerning the estimated cost of compliance with all proposals contained in the RIS calculated at \$21.3 million, mainly arising from the cost to obtain and renew the training qualification.

The private sector did not provide detailed submissions on costs for compliance in the private sector, but extrapolations from the government

figures provide an estimate of \$34.1 million. Therefore the estimated compliance cost for both government and the private sector was \$55.4M.

The main cost component was imposed by the accredited fire safety qualification requirement.

Industry stakeholders argued strongly that whatever training model was adopted it was important that it be appropriately targeted to risk and that it would be prudent to make it consistent with other regulatory requirements

It was accepted that the RIS proposal imposed greater costs than was necessary to achieve the underlying fire safety objective. The short length of the course (1 day), the high churn rate (up to 40% annually for some stakeholders) and coverage (up to 11 000 persons requiring training for one large agency) and the anticipated lack of motivation for most recipients of the training led to the view that the option proposed in the consultation draft was sub-optimal.

The alternative outlined in Clause 34 is a system based on the Workplace Health and Safety officer model provided under the *Workplace Health and Safety Act 1995*.

Clause 34

A high occupancy building is a workplace where 30 or more employees are normally employed (the Workplace Health and Safety Adviser test), a class 2 or 3 building that is more than 25 m in height and an at risk licensed premises as nominated by the Commissioner, QFRS, will be required to have a member of staff appointed and trained as an FSA. The FSA may provide or arrange evacuation training to staff (such training can also be provided by an RTO) and be involved in the fire and evacuation plan development, review and practice process.

One FSA can cover more than one building. For example, a university may have one or 2 FSA's to cover a campus. Organisations with Workplace Health and Safety Officers may choose to nominate this person as the FSA or appoint someone separate, as is most effective for the particular organisation.

Therefore a smaller number of people will require a qualification and that qualification will be more extensive.

The FSA qualification must be current and one that is approved by the Chief Executive Officer, and can be obtained by completing recognised

competencies in workplace emergency response, delivered by a registered training organisation. An FSA will require recertification every 3 years.

A new occupier of a high occupancy building is required to appoint an FSA within one month of occupancy.

Clause 35

Renamed as "general evacuation instructions" instead of basic, as outlined in the RIS, and requires that all persons in a building must be given instruction no later than 2 days after beginning work in the building and then at intervals of not more than 1 year. Further general evacuation instructions must be given to all workers if changes within the building mean that the fire and evacuation plan or procedures are changed or the operation or installation point of fire safety equipment is changed. These further instructions must be given no later than 1 month after the change in the building.

General evacuation instruction means pointing out the location of fire safety references points such as escape routes, fire alarms, fire fighting equipment and assembly areas, and explaining the procedures for evacuating a building.

Clauses 36 and 37

Renamed as "first response evacuation instructions" instead of "intermediate evacuation instructions", as outlined in the RIS.

First response instruction means the method of operation of manually operated fire alarms and fire fighting equipment such as extinguishers.

Concerns were raised during consultation about the difficulty of ensuring that all employees received first response evacuation instructions which included instruction in the use of fire fighting equipment or a demonstration (e.g. via video, CD, or internet delivery of such instructions).

For high occupancy buildings such instructions must be given by an RTO or a Fire Safety Adviser. For all other buildings there are no qualification requirements for instructors.

General instructions (location of exits, places of safety, evacuation instructions) must be given every 12 months, while first response

instructions may be given every 24 months, and the general instructions may be given conjointly with the first response instructions, if appropriate.

Clause 38 requires that evacuation coordination instructions should be given to all evacuation coordinators and persons responsible for carrying out the evacuation procedures (responsible persons) every 12 months. The same people should receive updated instructions if the procedures change, for example if there has been a material change to a part of the building, as soon as possible but no later than 1 month after the change.

Clause 39 - If a new person is to become the evacuation coordinator or responsible person (for example, staff turnover) then the new person must receive instructions within 1 month of being appointed.

Clause 40 - For new occupiers, an evacuation coordinator and responsible persons must be appointed and receive instructions within 2 months of moving into the building.

Clause 41 - In the case of new occupiers in high occupancy buildings, evacuation coordination instructions must be given by the occupier to the FSA.

Clause 42 - In low occupancy buildings (such as corner shops or other small businesses), if an occupier is the only person responsible for carrying out the evacuation coordination procedures, then it is sufficient for that person to review the evacuation plan every 12 months. Alternatively if an evacuation coordinator is another staff member, that person can review the procedures, but only if the occupier is satisfied that the person is competent to do so.

Evacuation practice

Clause 43 states that a budget accommodation building must practice evacuation of the building in accordance with the fire and evacuation plan every 12 months.

For all other buildings (**Clause 44**) evacuation practice must be conducted every 12 months by enough people and in such a way to ensure that the plan is adequately tested.

Concerns were raised during consultation that the practice evacuation provisions did not permit sufficient flexibility to cater for challenging occupancies such as intensive care units, high rise residential buildings and shopping centres.

The *Building Fire Safety Regulation 1991* references the whole of AS1851-2005 whereas a less robust approach has been taken in other jurisdictions, with no other jurisdiction picking up AS1851-2005 in its entirety.

Clause 50 requires that maintenance of each prescribed fire safety installations must be carried out in compliance with the relevant current Australian Standards, as outlined in Schedule 1, Column 2.

Clause 51 allows that if the appropriately qualified person who is carrying out the maintenance believes that it would adversely affect the installation, then a relevant former Australian Standard (as outlined in Schedule 1, Column 3 may be applied.

Clause 52 allows that if the appropriately qualified person who is carrying out the maintenance believes that the relevant maintenance required from the relevant former Australian Standard would adversely affect the installation, or if there is no relevant former Australian Standard, then the maintenance should be carried out in accordance with the manufacturer's recommendations.

Notifying critical defects

Clause 49 - A critical defect is defined as one that is likely to render a particular fire safety installation inoperable and if inoperable is reasonably likely to pose a threat to the safety of occupants in the building in the event of fire.

The RIS proposed requirement to notify the commissioner of critical defects was much discussed by stakeholders. It was considered that there was a serious risk that such a requirement would create an administrative reporting burden for occupiers that was not sufficiently outweighed by the benefits of notification to the regulator.

The reporting obligation was therefore removed. The obligation for contractors to notify occupiers of critical defects to the occupier within 24 hours has been retained in **Clause 53**.

Critical defects must be repaired within 1 month unless the occupier has a reasonable excuse, such as availability of appropriately qualified persons, the remoteness of the site or scarcity of parts (**Clause 54**).

Clause 54 - An occupier is responsible to ensure that maintenance of the prescribed fire safety installations is carried out by an appropriately

Part 7 **Miscellaneous**

Clause 70 states that documents provided to authorized fire officers must not be false or misleading, and that if documents are produced that are known to be false or misleading a penalty will apply. In this regard documents could include maintenance records, a prescribed document for a building, a fire and evacuation plan or evacuation instruction record.

Clause 71 requires that budget accommodation buildings and residential service buildings which have a fire safety management plan (required under the *Building Act 1975*, the *Fire and Rescue Service Act 1990* or *Residential Services (Accreditation) Act 2002*) must keep a copy of that plan in a secure place off the premises.

Clause 72 requires that occupiers retain prescribed documents for at least 2 years. This is especially important when a change of occupier takes place (for example when an occupier vacates a premises and another occupier moves in). The vacating occupier must give all relevant prescribed documents to the new occupier as soon as possible but in any case within 1 month of vacation. This section applies to all occupiers except public authorities.

A prescribed document is any of the following; a record of review of the fire and evacuation plan, a fire and evacuation instruction record, an evacuation practice record, a record of maintenance.

Clause 73 prescribes a fee to be paid if an occupier has been given a notice under Section 104SB (2) of the Act and wishes to appeal the notice.

Part 8 **Repeal**

Clause 76 states that the regulation repeals the *Building Fire Safety Regulation 1991* and the *Building Fire Safety Amendment Regulation (No. 1) 1993* SL No. 200.

Part 9 Transitional provisions

To allow time for high occupancy occupiers to appoint and train a Fire Safety Adviser the regulation allows a transitional period of 12 months from commencement. Further, a transitional period of 12 months is allowed for the giving of former evacuation instructions and first response instructions to workers in both high and low occupancy buildings.

Clauses 78 and 79 outline that the keeping of fire and evacuation plans in specific form and referencing the fire safety management procedure, integrating fire and evacuation plans in multi-tenanted buildings, and obtaining relevant approval documents (all required under Part 4, subsection 2) do not apply until 1 year after commencement. The intent behind this is that it is anticipated that all of these requirements will take some time to achieve.

Clause 80 - Until the fire and evacuation plans and management procedures are updated in accordance with the regulation, it is acceptable for the occupier to give persons the relevant former instructions for the building and that if those former instructions are given; the occupier is taken to have given persons first response evacuation instruction on the day that the former instructions were given (Clause 81).

Clause 82 allows the occupier to give former instructions in evacuation coordination to all persons until the evacuation coordination procedures are updated in accordance with the new requirements of the regulation.

All of the above transitional provisions cease 1 year after commencement.

Clause 83 outlines the compliance requirements for the appointment of fire safety advisers, allowing a transitional provision of 1 year after commencement for appointment, or in the case of new occupancies, 1 month after the occupancy begins. In other words, if an occupier moves into a building within 1 year of commencement, a Fire Safety Adviser will need to be appointed within 1 month, whereas existing and current occupiers have 12 months to appoint fire safety advisers.

Clause 84 - However, budget accommodation buildings are required to ensure that an evacuation practice in accordance with the written fire and evacuation plan is carried out within 12 months of the former evacuation practice or within 3 months of the commencement of the regulation.

Clause 85 - An occupier is responsible to ensure that maintenance of the prescribed fire safety installations is carried out by an appropriately qualified person, defined as one who holds a license that is of a class specified in the *Queensland Building Services Authority Regulation 2003*.

Persons who hold a current certificate of accreditation issued by the Fire Protection Industry Board, relating to a particular type of fire safety installation, will be deemed to be appropriately qualified until 1 July 2010.

Clause 86 refers to the keeping of former records such as those required under the repealed regulation: a record of fire instruction, a record of evacuation, certificates and records of maintenance. These are to be kept the same length of time as a prescribed document; at least 2 years - see clause 72.

Clauses 87 to 90 refer to transitional provisions for services provided by QFRS before the commencement or amendment date of the regulation, but not paid until after the commencement or amendment date.

Part 10 **Amendment of other regulations**

The commencement of the *Building Fire Safety Regulation 2008* will cause amendments to two other regulations and they are the *Queensland Building Services Authority Regulation 2003* and the *State Penalties Enforcement Regulation 2000*.

The *Queensland Building Services Authority Regulation 2003* is amended to take account of the license requirements referred to for maintenance services provided for fire safety installations for person(s) undertaking the maintenance.

The *State Penalties Enforcement Regulation 2000* is amended to introduce penalties for new measures in the regulation, and to increase some existing penalties which have not been reviewed since 1991.

ENDNOTES

- 1 Laid before the Legislative Assembly on . . .
- 2 The administering agency is the Department of Emergency Services.

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