

**National Fire Industry
Association**



Australia

**Contractors at the
Frontline of Fire Protection**



**Submission to the
Economic Regulation Authority of Western Australia
Inquiry into Reform of Business Licensing
in Western Australia Draft Report**

November 2018

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EXECUTIVE SUMMARY

The Western Australian Treasurer has asked the Economic Regulation Authority (ERA) to undertake an inquiry into options to reduce the regulatory burden and other economic costs of state government business licensing in Western Australia.

In October the ERA released its Draft Report entitled Inquiry into Reform of Business Licensing in Western Australia. The Draft Report makes 9 recommendations and contains 11 requests for further information about problems with state government business licensing.

NFIA is an Australia-wide community of commercial fire protection contractors, their people, suppliers and industry stakeholders representing a wide and varied membership from the smallest sub-contractor through to large Australia-wide design, install and service businesses. Our members work at the frontline of fire protection with an estimated 80 per cent of the fire protection work undertaken in Western Australia completed by members of NFIA.

While life safety is paramount for the fire protection industry, unfortunately it has not stopped tragedy occurring:

- Victoria – Kew Cottage 7 April 1996, 9 lives lost
- Queensland - Childers Backpacker Hostel 23 June 2003, 15 lives lost
- New South Wales – Bankstown apartment fire 7 April 1996, 1 life lost

From these and similar other tragedies, Coroner’s recommendations and other forms of investigative outcomes have emerged. Regulators then make changes to strengthen the fire safety framework for the community.

We recently saw this play out in England. The consequences of a weak fire protection regime were again highlighted by the Grenfell Tower tragedy in London, England. In response to this tragedy the local Council committed to installing fire protection systems in all 213 of their residential buildings.

Queensland responded to the Childers Backpacker Hostel fire deaths by creating the benchmark regulatory system for fire protection in Australia with the key features being a fire protection licensing system for contractors and workers that cover fire protection design, installation, certification and service activities. Under this regulatory regime only a trade qualified sprinkler fitter who has completed the Certificate III apprenticeship and who knows what is required to properly install, maintain, service and inspect and test high rise apartment buildings and other commercial, industrial and public access buildings’ fire sprinkler systems is regulated to do so. Other fire protection categories such as alarms, detection, ewis, passive, special hazard systems are also picked up in the Queensland system so as to license contractors who wish to tender for and contract to do this work.

With respect to Western Australia it can be said that there is a high risk of fire safety systems in a number of buildings in WA being non-compliant and therefore at high risk of not protecting the occupants of a building in the event of fire. As evidence, NFIA’s submission includes a dozen real life examples of non-compliant fire protection systems that have been

signed off as fully operable.

The biggest impediment to ensuring WA fire protection systems are properly designed, installed, inspected and maintained is a lack of registration or licensing of fire protection practitioners.

NFIA's view has always been that the design, installation and maintenance of fire protection systems and their subsequent certification should only be carried out by those with appropriate skills, knowledge and qualifications and that reform in the requirements for fire protection and life safety is an imperative.

NFIA strongly supports the recommendations contained within the draft report. Licensing should be considered a government asset which benefits the entire Western Australian community.

NFIA congratulates the Western Australian Government for its consideration of unnecessary or inadequate licensing which creates economic costs and inefficiencies. However, given that life safety is at risk, NFIA believes that there is a strong case for introducing a licence category for those who undertake the design, installation, servicing, maintenance, repair and certification of fire-fighting water services at least. The recently released Shergold Weir Report: Assessment of the Effectiveness of Compliance and Enforcement Systems for the Building and Construction Industry across Australia recognises that there are certain occupations that all jurisdictions should register. One of which is a fire safety practitioner (Recommendation 1).

The Western Australian Government should not wait to respond to a fire disaster. NFIA believes that a robust system of company and occupational licences for the fire protection industry similar to what is currently done in Queensland where all licence categories are underpinned by nationally recognised trade qualifications should be introduced as a matter of urgency.

INTRODUCTION

Besides the human risk, there is also a substantial financial cost to the community due to building fires. Fire costs Australian business millions of dollars due to property damage, fines, compensation, and insurance premiums. Many businesses find that they are not able to recover from the effects of a fire.

The Australian Fire Protection Industry

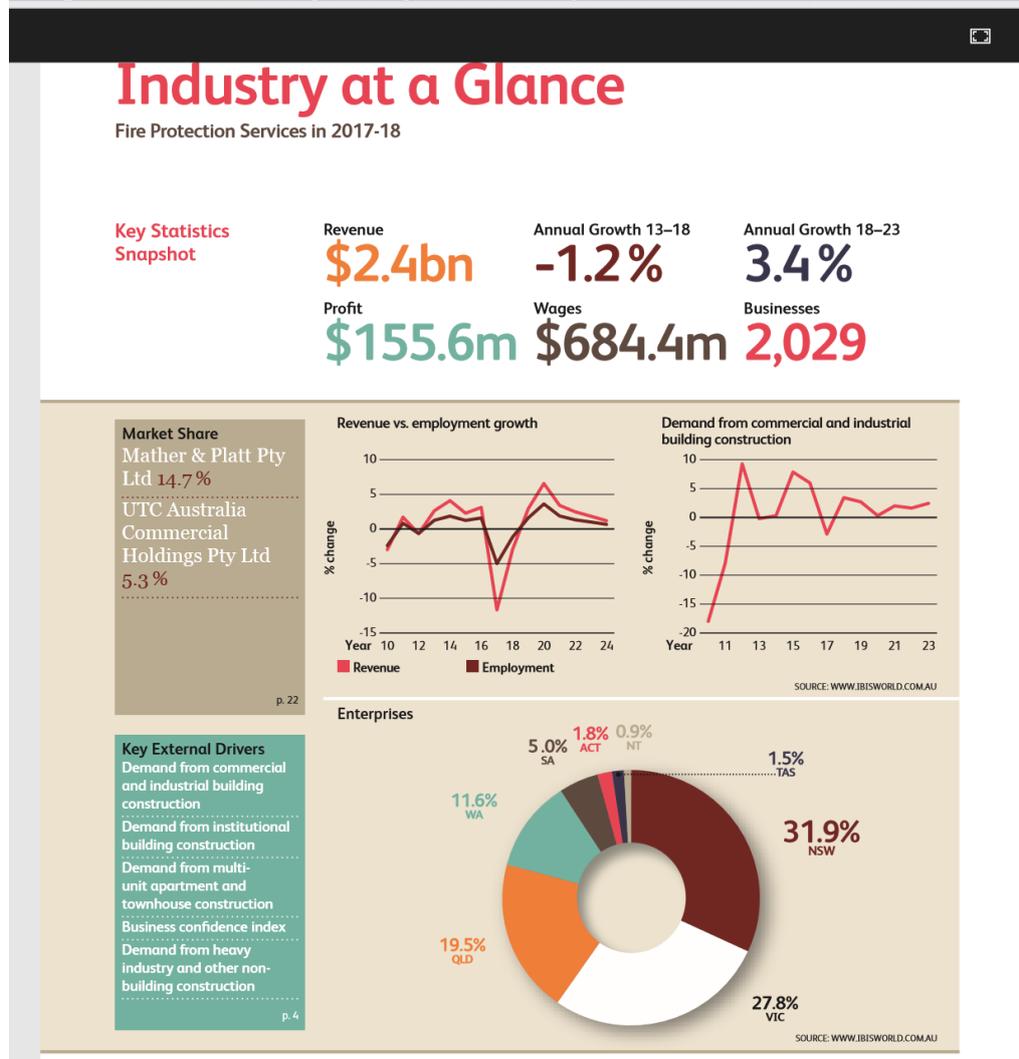
Fire protection in Australia is typically achieved via three means:

- Active fire protection (fire sprinklers, fire hydrants and fire alarm systems);
- Passive fire protection (fire rated walls, floors and ceilings and fire sealing); and
- Education.

The Fire Protection Services industry contributes over \$2.4 billion to the Australian economy every year. Over 2000 businesses pay nearly \$700 million in wages each year and industry revenue is projected to increase at a compound annual growth rate of 3.4% over the five years through 2022-23, to reach \$2.8 billion.

The IBISWorld Industry Report OD5424 Fire Protection Services in Australia (February 2018), claims that despite the presence of vertically integrated multinational giants, the industry has a low level of market share concentration as the top four players are estimated to account for about 27.4% of industry revenue. The two major companies have a combined market share of only 20% and are both part of large multinational companies operating globally across several related industries. Twenty years ago, the two major companies are estimated to have had 80% of the market.

There are now a large number of State, regional and local players that construct, install and service fire protection systems to small, medium and major buildings across the full scope of class 2 to 9 buildings as well as higher risk facilities such as fuel depots, harbours and similar developments. Over half the industry enterprises employ between one and 19 people (53.1% in 2014-15) and a further 44.4% have no directly employed labour. As the minor players have increased their share of the total market, the industry has become more diverse and competitive while also growing substantially.



Where twenty years ago, the two major companies offered a form of institutionalised but limited “industry” training to their people, it could be argued that the industry was less in

need of regulation. However, as the industry has grown substantially and its make-up evolved it is now predominately made up of many more, smaller independent contracting companies. That market growth and diversification has provided customers with better contractor choices, better outcomes and better pricing but, at the same time, raised the need for more over-arching regulation.

The National Fire Industry Association (NFIA)

The National Fire Industry Association (NFIA) is an Australia-wide community of commercial fire protection contractors, their people, suppliers and industry stakeholders representing a wide and varied membership from the smallest sub-contractor through to large Australia-wide construction and service businesses. Our members work at the frontline of fire protection with an estimated 80 per cent of the fire protection work undertaken in Australia is completed by members of NFIA.

NFIA utilises the resources of other Australian and International industry organisations and associations.

NFIA is committed to the delivery of quality fire protection practitioners across all aspects of fire protection safety. To this end, NFIA has sponsored and supported the growth of the world leading fire industry Registered Training Organisation, Fire Industry Training (FiT), which now delivers fire industry required training including WA for all of Australia at its campuses in Brisbane, Melbourne and Sydney.

NFIA believes that an appropriate regulatory framework should be one that protects the safety of the community and property, provides adequate consumer protection, recognises and accommodates industry practice and standards, requires registration of practitioners and is linked to the national training package framework.

The Problem

Fire Protection systems and their correct design, installation and maintenance are critical for protecting people, buildings and assets in the event of a fire. Therefore it is imperative that all aspects of fire protection work be carried out by competent practitioners with the appropriate qualifications and credentials.

However, based on historical data it can be said that fire safety systems in numbers of buildings in Western Australia are non-compliant and are at high risk of not protecting the occupants of a building in the event of fire.

NFIA has been at the forefront of the issue of fire protection non-compliance for the last 20 years and has provided many submissions to various reviews during this time which have examined non-compliance, self-certification, accreditation and licensing within the Australian building and construction industry. Some of these reviews include, but are not limited to:

- The NSW Independent Review of the Building Professionals Act 2005 (The Lambert Report);
- COAG National Licensing System for Specified Occupations 2008;
- Queensland Building Services Authority Amendment Regulation (No. 2) 2008;

- Fire Protection Systems Working Party Report: October 2010;
- Planning White Paper: April 2013;
- Maltabarow Report: Building Certification and Regulation - Serving a New Planning System for NSW: May 2013;
- Review of Western Australian Plumbing Laws (ACIL Allen Consulting) 2013.
- Building and Planning Legislation Amendment (Governance and Other Matters) Bill 2013;
- Draft Home Building Regulation 2014 and Regulatory Impact Statement July 2014;
- IPART Final Report, Reforming Licensing in NSW, Review of Rationale and Design: August 2015; and
- Shergold-Weir Report, Assessment of the Effectiveness of Compliance and Enforcement Systems for the Building and Construction Industry across Australia 2018.

These reviews have all made similar recommendations regarding fire protection – that there should be stronger fire protection regulation in place, supported by a regulated and licenced certification process, which can enable informed and qualified assessment and sign off of fire safety systems.

Despite these reviews and the industry’s expert input, very little has changed and we continue to tolerate non-compliant systems which could result in a higher risk to people and property in Australia in the event of a fire. This sad reality exists because of a legislative framework in some states which enables unqualified practitioners to design, install, maintain and test essential fire safety systems. The situation is at its worst in Western Australia where there exists no registration for fire safety practitioners.

ECONOMIC REGULATION AUTHORITY OF WESTERN AUSTRALIA INQUIRY INTO REFORM OF BUSINESS LICENSING IN WESTERN AUSTRALIA

The Western Australian Treasurer has asked the Economic Regulation Authority (ERA) to undertake an inquiry into options to reduce the regulatory burden and other economic costs of state government business licensing in Western Australia.

In October the ERA released its Draft Report entitled Inquiry into Reform of Business Licensing in Western Australia. The Draft Report makes 9 recommendations and contains 11 requests for further information about problems with state government business licensing.

NFIA supports the 9 recommendations contained within the Report and as per the Report’s request for further information about problems with state government business licensing we provide information on the problem of a lack of fire protection licencing in Western Australia.

Occupational licensing can, in some industries increase prices and impose additional costs on consumers. At the same time, many occupational licensing restrictions do not appear to realize the goal of increasing the quality of professionals' services.

However, when life safety is at risk the costs of licensing never exceeds the benefits to consumers. In Western Australia where there is no occupational licencing for fire protection

there exists a substantial problem. NFIA has attached a dozen examples of non-compliant fire protection systems in Western Australia that have been incorrectly installed and/or tested and subsequently signed off as being compliant and operable (Appendix A)

Our examples include a description of the building in which these non-compliant systems can be found and include government buildings, office buildings, high rise residential apartment buildings and aged care facilities. Our examples include a description of the fault and its consequences. In all cases the fault could render the system inoperable in the event of a fire. We have identified when these faults would have occurred and while some are examples of non-compliant design or installation, others are a result of general wear and tear and are faults that should have been identified during routine and maintenance checks but were not. We have also included a picture of the fault for each example.

Licences are therefore a relatively minor cost on society compared to the fact that licensing schemes can provide substantial economic, social and environmental benefits and protections for the wider community.

Benefits of licensing:

- Protects the public interest by keeping incompetent and unscrupulous individuals from working in fire protection
- Certification and licensing provide information about practitioners in a particular occupation; the fact that a person has satisfied required standards is an indication to the consumer as to the quality of the service that will be provided. This decreases the cost to consumers of measuring the quality of services.
- Increased professional competence - occupational regulation is often directed at ensuring a minimum level of competence for those who participate in a particular industry; for example, a licensing system may require a licensing authority to be satisfied as to the educational qualifications and/or experience of an applicant. Consumers are thus given some guarantee that services provided by practitioners will conform to a basic level of skills.
- Financial soundness - occupational regulation may endeavour to ensure the financial soundness of those who participate in an industry.

The recently released Shergold Weir Report: Assessment of the Effectiveness of Compliance and Enforcement Systems for the Building and Construction Industry across Australia recognises that there are certain occupations that all jurisdictions should register. One of which is a fire safety practitioner (Recommendation 1).

Recommendation 1: That each jurisdiction requires the registration of the following categories of building practitioners involved in the design, construction and maintenance of buildings:

- *Builder*
- *Site or Project Manager*
- *Building Surveyor*
- *Building Inspector*

- *Architect/Engineer*
- *Designer/Draftsperson*
- *Plumber*
- *Fire Safety Practitioner*

Registration of practitioners is a regulatory mechanism for providing public accountability. Licensing of fire protection contractors would provide:

- Better protection for people and property in the event of a building fire;
- Less risk of fire deaths, fire injuries and property harm and destruction
- Improved training and safety for fire protection workers;
- Improved compliance with building fire safety regulations leading to reduced costs for owners, occupiers, government, emergency services and local governments;
- Greater community confidence that work is performed by appropriately skilled workers to the prescribed standards; and
- Reduced risks for fire fighters responding to fire emergencies.

NFIA strongly supports the recommendation contained within the Draft Report that Agencies should consider licensing schemes as assets, much like other assets owned by the government, such as public infrastructure. As such NFIA argues that there should be a comprehensive system of contractor registration across all occupations involved in the design, installation, testing, commissioning and maintenance of fire protection systems in Western Australia. NFIA is strongly opposed to any body other than Government acting as the regulator. We cannot support the privatisation of regulatory oversight. A robust registration system should be underpinned by an independent registration authority and only Government should be performing this role.

A prime example of the problem arising from enabling non-governmental agencies to administer an accreditation scheme for fire safety practitioner registration is the proposed NSW system. As it currently stands, each NSW private industry accrediting authority may decide itself the categories of accreditation and the qualifications that are required for any individual applying in any registered practitioner category. So you could have a situation where multiple accrediting authorities require different qualifications in the same practitioner category of registration.

How does an outcome like this promote good fire protection and reduce fire safety risk? Why should the community not expect to have the same high standard of fire protection regardless of where they live? We can consistently register electricians generally to the same standards across Australia, why do we not seek to extend that same level of regulation to fire protection?

The Fire Licence Solution

NFIA's view has always been that the design, installation and maintenance of fire protection systems and their subsequent certification should only be carried out by those with

appropriate skills, qualifications and registration and that reform in the requirements for fire protection and life safety is an imperative.

A Western Australian Occupational and Company registration scheme should cover fire protection design, installation, service, maintenance and testing and be underpinned by nationally recognised qualifications. The development of a regulatory scheme must prioritise accreditation for a certifier of fire protection construction and installation and for certification of systems maintenance milestones during the lifespan of the fire protection systems. Most importantly each category of registration must be underpinned by nationally recognised trade qualifications.

The QLD Model

NFIA suggests that Western Australian Government implement a State-wide registration / licensing scheme similar to what is currently operating in Queensland.

In response to the '*Building Fire Safety in Queensland Budget Accommodation Report*', which was released after the Childers backpacker hostel fire, the Queensland Building and Construction Commission Act 1991 (QBCC Act) was amended to include an occupational licensing scheme for the installation, maintenance or certification of a fire protection system for a building.

Today, Queensland has the most detailed and mature fire protection licensing system in Australia and is often the reference point used by other States. Queensland licencing is for the entire fire industry, including alarms. The cost of the licensing system is met from a number of sources including by industry through payment of registration fees and is aligned with national qualifications.

Registration is administered by the Queensland Building and Construction Commission (QBCC). Any person (including an employee or someone working under a subcontract arrangement) who personally performs or supervises fire protection work is required to hold one of the following licenses:

- A fire protection occupational licence issued under the QBCC Act that authorises the licensee to personally carry out the work (as an employee or sub- trade contractor only);
- A contractor's licence issued under the QBCC Act that authorises the licensee to contract for and carry out the work (under contract for a builder or consumer); or
- A licence, registration or authorisation under an Act, other than the QBCC Act, that authorises the person to personally supervise or carry out the work (for example, an occupational licence issued under the Plumbing and Drainage Act 2002 or the Electrical Safety Act 2002).

There are 12 unique Fire Licence classes with defined scope of works:

- Passive fire protection – fire doors and shutters;
- Passive fire protection – fire collars, penetrations and joint sealing;
- Passive fire protection – fire and smoke walls and ceilings;

- Special hazard suppression systems;
- Sprinkler and suppression systems - reticulated water based;
- Fire pumps;
- Fire hydrants and hose reels;
- Portable fire equipment and hose reels (hose reels down stream of stop cock only);
- Fire detection, alarm and warning systems;
- Emergency Lighting;
- Emergency procedures; and
- Fire safety professional.

To apply for a fire occupational licence applicants must meet the relevant technical requirements. Each licence class has a defined scope of work and the applicant must provide evidence of successful completion of all of the stipulated units of competency connected with that class of licence.

The licencing system is underpinned by aligning the simplicity, or the complexity, of the fire protection task with the relevant qualification. This ranges from basic installation of a simple fire extinguisher requiring a Certificate II qualification through to more complex activities such as sprinkler system installation being performed at Certificate III and certified at Certificate IV level.

The nationally accredited courses are registered and audited by ASQA (The Australian Skills Quality Authority). The industry is well placed to assist with delivery of these qualifications as the Plumbing and Pipe Trades Employees Union and the NFIA are already in an active partnership to deliver fire industry pre-apprenticeship, apprenticeship and post-trade training. Through their industry owned Registered Training Organisations, colleges for development and delivery of fire industry trade skill needs have been established at Salisbury Qld, Brunswick Victoria and Lidcombe NSW. Students from around Australia can enrol and complete their fire protection qualifications and training through the most modern, quality training delivery methods.

Further information can be found on the Queensland Building and Construction Commission website:

<https://www.qbcc.qld.gov.au/sites/default/files/Fire%20Occupational%20Licences%20Booklet.pdf>

Education and Training

Any robust accreditation or licensing scheme must align national training packages with accreditation categories, scopes and prescribed activities, contain a comprehensive audit regime and a CPD process. The system must require practitioners to reflect the requirements of the National Construction Code, and all appropriate, relevant Australian Standards.

NFIA believes that any robust licensing scheme must align national training packages with accreditation categories, scopes and prescribed activities. The current Australian training framework provides fire protection qualifications at Certificate II, Certificate III, Certificate IV and Certificate V. These Qualifications are on the National Training Register and the

organisations delivering them are registered with ASQA (The Australian Skills Quality Authority).

The training package Qualifications and fire industry RTO delivered upskilling programmes which are available today to underpin competency requirements include:

Qualification
Certificate II in Fire Protection Inspection and Testing - Industry Entry Level (CPP20511)
Certificate III in Fire Protection – Suppression Systems (CPC32813)
Certificate III in Fire Protection Control – Electrical (UEE31011)
Certificate IV in Plumbing & Services – Fire Stream (CPC40912)
Certificate IV in Fire Systems Compliance (30903) (3rd party certification)
Diploma Fire Systems Design – Water, Alarms & Certification Streams (CPC50509)
Upskilling Courses
Domestic & Residential Sprinklers
Hydrants, Hose Reels and Fire Pumps
Emergency Lighting Skills Sets (EL-30903)
Inspect and Test – Fire Pumps
Prepare a Fire Protection Certification Statement or Report (REP 1)
Fire Safety: Responsible Person
EAHL Qualified Persons Licence – Class 1, 2, 3, 4, 5, 6
Annual testing - Five-day program designed as an upskilling course for registered sprinkler fitters.
Fire Sprinkler testing - Four-day program designed as an upskilling course for registered sprinkler fitters
Inspect and Test Control and Indicating equipment (CPPPFES2047A Inspect & Test Control & Indicating Equipment) - Two-day program which covers routine monthly and six monthly inspecting and testing of CIE's, such as Fire Indicator Panels.
Special Hazards Fixed System Testing & Maintenance & Fixed System Installation & Decommissioning
Produce 2D architectural drawing using CAD software (CPCPCM4013A)

It must also be recognised that many practicing “Fire Safety Professionals” today do not hold any of these qualifications and any proposed licensing scheme will have to have an entry pathway which allows for appropriate assessment, evaluation and recognises the skills of these people to may allow them to be registered/licensed. This process should also determine if a formal training pathway is appropriate and how licensing could be achieved by any individual. It is not proposed that entry under this arrangement would be automatic but rather that it would be based on a rigorous assessment of an individual’s knowledge and skill.

Anyone can apply for Recognised Prior Learning (RPL) for any of fire protection courses which requires the demonstration of competence of personnel through recognised training qualifications or completion of a technical interview and competency questionnaire. By aligning the licensing scheme with nationally recognised qualifications it will be an easier transition for the potential license holders than ignoring what is already available to industry.

Continuing Professional Development

All industry practitioners should undertake professional development to maintain their abilities, skills and knowledge which are necessary for the practitioner to perform the competent fire safety function they have been accredited for.

The CPD system can also be used as a method for planning and tracking career development.

All CPD accredited training should contain relevant content, be applicable to practice and should be aligned with the Practitioner’s scope of their registration.

NFIA also proposes that accreditation/licensing should be renewed every three years in line with the CPD requirements.

Enforcement

NFIA believes that if we introduce an independent, standard, consistent national registration system, then we must align it with an independent, standard and consistent compliance and policing system.

NFIA data says that only approximately 20% of submitted fire protection system defects are generally acted on by building owners because there is little enforcement of building owner lodgement of required annual reporting, within the required timeframe,

Low defect rectification levels in an environment without any policing and penalty, disincentivises quality work and emboldens cowboy operators. The solution is to strengthen building owners’ accountability for the fire safety of their building by enabling the regulator to impose robust penalties for non-compliance with annual building owner reporting requirements plus robust penalties for not acting on defect rectification reporting by the fire protection service provider.

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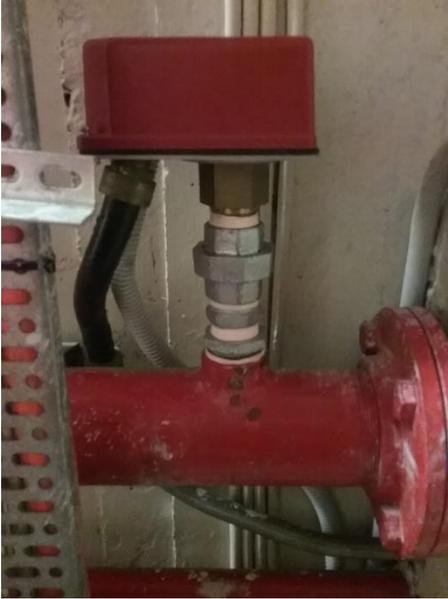
Chief Executive Officer

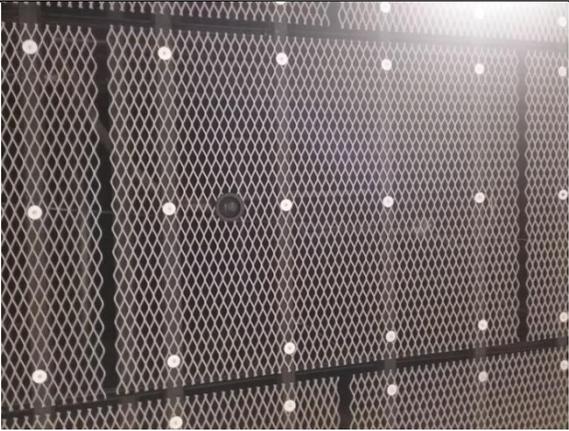
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Examples of Non-compliant Fire Protection Systems in WA

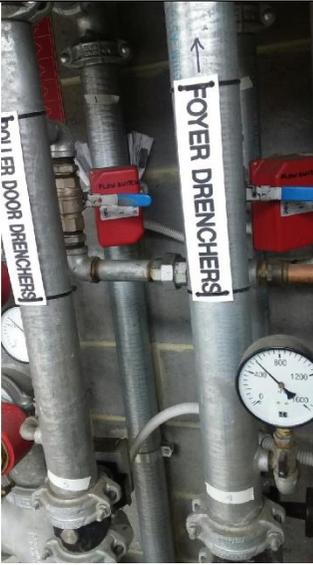
Brief description of The Project	Brief description of how it is non-compliant	<p>How important? 1-Not important 2-Slightly important 3-Moderately important 4-Very important 5-Extremely important</p> <p>What impact would it have/ What could go wrong?</p>	<p>At what stages in the building process would you typically expect this issue to occur?</p>	<p>Why do you think this issue is occurring?</p>	<p>What evidence do you have to support your view? Broader, more varied and detailed evidence is better, so take as much room as you need. Please attach any relevant documents to the submission.</p>
<p>1. Perth Central Law Courts</p>	<p>Sprinkler Location Flow Switches installed incorrectly (via union and nipples/paddle will not operate) Flow Switches require direct mounting to main for correct operation.</p>	<p>5 – Extremely Important Consequences- The Fire Brigade was would not respond in an Emergency Fire situation.</p>	<p>During the testing/maintenance of the fire protection systems, these flow switches failed whilst testing- approx 6 affected.</p>	<p>Unqualified and unlicensed sprinkler fitter installer</p>	

<p>2.Perth Arena</p>	<p>Sprinklers fitted to open mesh type ceiling meaning there are no watersheds (heat collectors) above the sprinklers</p>	<p>5 – Extremely Important In the event ceiling space sprinklers operate, they will cool the sprinklers below in the open mesh , not allowing them to activate in a fire situation</p>	<p>During the installation of the sprinkler system.</p>	<p>Unqualified and unlicensed sprinkler fitter installer</p>	
<p>2.Perth Arena</p>	<p>Sprinkler Alarm Valve risers have insufficient and incorrect bracketing in main Pump Room.</p>	<p>5 – Extremely Important Sprinkler Risers are unstable and move around whilst testing, pipework could dislodge from wall and leave pipework vulnerable to movement and possible disconnection of fittings/ pipework, leading to flooding and your fire system unoperational.</p>	<p>During the installation of the sprinkler system.</p>	<p>Unqualified and unlicensed sprinkler fitter installer</p>	

<p>Westralia Square , Perth</p>	<p>Pre Action Sprinkler Installation - incorrect and insufficient bracketing installed - system pipework secured by 2 x small screws into a/c duct.</p>	<p>5 – Extremely Important When dry system operates , a large amount of force is generated as the system is empty - current bracketing could dislodge when system is required in an emergency situation , leading to possible disconnection of pre action pipework, flooding the floor and leaving the system non operational</p>	<p>During the testing/maintenance of the fire protection systems these faults were not identified</p>	<p>Unqualified and unlicensed sprinkler fitter tester</p>	
<p>4. Melville Plaza Western Australia</p>	<p>Pendent ceiling space sprinkler coming out of side of pipe</p>	<p>5 – Extremely Important The spray of the water will not cover there area it is required to protect , which could fail to put out a fire</p>	<p>During the installation of the sprinkler system.</p>	<p>Unqualified and unlicensed sprinkler fitter installer</p>	

<p>5. High rise office building in Perth (Hay Street)</p>	<p>Corrosion build up within Sprinkler Towns Main non return valves</p>	<p>5 – Extremely Important Restriction of flow in an emergency situation/ debris dislodged leading to possible sprinkler blockage in an emergency fire situation/ backflow of dirty water into the towns main water supply.</p>	<p>During the testing/maintenance of the fire protection systems these faults were not identified</p>	<p>Unqualified and unlicensed sprinkler fitter tester</p>	
<p>6. High rise office building in Perth (St Georges Tce)</p>	<p>Diesel fire pump heat exchanger relief pipework has no viewing window to make sure cooling water is flowing whilst pump is running - the relief drain has also been connected to the main drain , so when testing , the discharge of the relief water may be impeded by water flowing through the main drain.</p>	<p>5 – Extremely Important During diesel pump testing , if unable to see the heat exchanger cooling water , the strainer could possibly be blocked , leading to the pump overheating up and eventually seizing or running to destruction ; leaving your fire system severely impaired and not operational during a fire</p>	<p>During the installation of the sprinkler system.</p>	<p>Unqualified and unlicensed sprinkler fitter installer</p>	

<p>7. Kings Square Office Building</p>	<p>Pipes supported by hemp.</p>	<p>5 – Extremely Important</p>	<p>During the testing/maintenance of the fire protection systems these faults were not identified</p>	<p>Unqualified and unlicensed sprinkler fitter tester</p>	
<p>8. Warwick, Perth. Shopping centre.</p>	<p>Sprinkler set up with the deflector flush with the ceiling height.</p>	<p>5 – Extremely Important Spray pattern will end up inside the roof space and not effectively contain a fire if it were to occur.</p>	<p>During the installation of the sprinkler system.</p>	<p>Unqualified and unlicensed sprinkler fitter installer</p>	

<p>9. Multi storey office building in Perth (Murray St)</p>	<p>Flow switch test points pipework have been installed before the flow switch.</p>	<p>5 – Extremely Important This means you can't test the flow switches correctly through the installed test point. The flow switch test point should be located after switch in order to receive alarm back to fip</p>	<p>During the installation of the sprinkler system.</p>	<p>Unqualified and unlicensed sprinkler fitter installer</p>	
<p>10. Baptist Care Byford Nursing home. Buildings A and B.</p>	<p>This sprinkler system is non-compliant due to the pipe that delivers water to the sprinkler system is drastically undersized - 50mm feed rather than a 65mm feed as designed.</p>	<p>5 – Extremely Important This system will never be able to operate correctly, if at all! Sprinkler systems require a hydraulically calculated amount of water to service the size of the sprinkler system and to provide enough pressure to discharge water. This wrongly installed pipe is like having sprinkler system almost turned off.</p>	<p>Annually it is a requirement for the flow and pressure to be tested on every sprinkler system. This building although has never been identified as failing all requirements. No annual records are available.</p>	<p>Unqualified and unlicensed sprinkler fitters testing the fire protection systems. Unqualified tradesman installing incorrect pipework in construction.</p>	

<p>11. Livingstone Shopping Centre.</p>	<p>A gauge was showing pressure but was actually seized in a pressure indicating position. It appears during some service works a street main has been incorrectly left in the closed position and because the gauge indicated pressure it was assumed the shopping centre had a water supply. This shopping centre has been without water to its entire fire sprinkler system for an unknown time.</p>	<p>5 – Extremely important The risk associated with this is exceptional. Customers, workers, fire fighters and the general public would not have been protected in the event of a fire</p>	<p>This problem should have been picked up during the routine inspection of the system</p>	<p>Unqualified and unlicensed sprinkler fitters testing the fire protection systems.</p>	
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<p>12. Phoenix Shopping Centre.</p>	<p>The alarm line is locked closed not allowing the pressure switch on this alarm line to send a signal to the fire panel indicating a fire.</p>	<p>5 Extremely Important In the event of a fire the Fire brigade will not be called, the site will not have its occupant warning system activated which alerts people to evacuate and the gong to help audibly locate the valve will not sound. This greatly reduces the Fire brigades ability to respond quickly In the event of vandalism (broken sprinkler/leak) water damage would be significantly higher without any response. Water could flood building for hours before staff/public alert management of problem. This valve has no signage which probably helped the valve being left in the wrong position.</p>	<p>These problems should have been picked up during the routine inspection of the system</p>	<p>Unqualified and unlicensed sprinkler fitters installing the system Unqualified and unlicensed sprinkler fitters testing the fire protection systems.</p>	 <p>The photograph shows a close-up of a red fire valve assembly. The valve is a large, cast-iron component with a blue handle. It is connected to a network of red pipes. A pressure gauge is visible on the right side of the assembly. The background is a plain wall.</p>
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