QUICKCHECK

Smoke Alarm Compliance
Pool Safety Inspections
Maintenence Electrical

20 March 2016

The Research Director
Legal Affairs and Community Safety Committee
Parliament House
Brisbane, QLD 4000

Sent via email to: lacsc@parliament.qld.gov.au

Dear Sir/Madam

Re:Submission to the Fire and Emergency Services (Domestic Smoke Alarms) Amendment Bill 2016

Thank you for the opportunity to present our submission.

We are the owners and operators of Quickcheck. Established in 2007, Quickcheck provides owners and lessors of residential rental properties with specialist smoke alarm services, maintenance electrical services and pool safety inspections. We provide smoke alarm services to over 7,000 rental properties in the Wide Bay region. As licensed electrical contractors and pool safety inspector and with nearly nine years experience in the smoke alarm industry, we believe that we have the professional credentials and relevant industry experience to make a substantial contribution to the Parliamentary Review Committee's consideration of the above mentioned Bill.

The key points of our submission are:

- The optimum installation is not photoelectric smoke alarms alone, as different types of smoke alarms are more effective in different types of fires;
- False activation occurs with both photoelectric smoke alarms and ionisation smoke alarms;
- Our experience has shown that, if a smoke alarm false activates, the resident will disable it or remove it, defeating the aim of having working smoke alarms in each residential dwelling;
- Requiring smoke alarms in all bedrooms may be counter-productive, due to annoyance and cost issues;
- In our professional opinion, all residential properties should be fitted with at least one photoelectric and one ionisation smoke alarm on each level;
- The bill should refer to a Queensland Development Code that would specify smoke alarm requirements, their locations and the definitions of related words and phrases, administered by an appropriate government department;
- Specifying particular power sources may be counter-productive, with potential cost, complacency and safety issues;
- Requiring interconnection of smoke alarms is unlikely to be complied with, as it imposes high cost burdens and is, in most cases, of little additional benefit;
- The testing and maintenance of smoke alarms in residential rental properties should be provided by licensed and insured service providers;
- A system for the training and licensing of service providers should be established and administered by an appropriate government department.

Clause 5 Amendment of s 104RBA (Owner must install smoke alarm)
(4) A smoke alarm must be installed in each place in the domestic dwelling required by a regulation.

We have been unable to acquire a copy of the regulations for this bill. It appears that no regulations have been gazetted and our local member of parliament Leanne Donaldson (member for Bundaberg) has been unable to provide us with a draft copy of the regulations. It difficult to make an accurate submission without viewing the proposed regulations.

The only indication of the intention of this section of this bill is contained in a media release provided to us by the office of Leanne Donaldson MP.

This Media release states: *"Under the proposed legislation, smoke alarms will need to be photoelectric and be installed in all bedrooms, between areas containing bedrooms and the rest of the dwelling, in any hallway servicing bedrooms and in any other storey of a residential dwelling."*

For the purpose of an accurate submission, we will break this statement down into three key elements.

1. Smoke alarms will need to be photoelectric

We fully endorse the mandating of photoelectric alarms in all Queensland domestic dwellings.

It is a fact that only working smoke alarms save lives, however, the two commonly used types of smoke alarms each have significant pros and cons.

All smoke alarms are prone to false activations from a wide range of environmental factors including dust, humidity, static electricity, insect infestation, residual smoke particles, and in the case of 240 volt smoke alarms, induced current from related electrical circuits.

Photoelectric smoke alarms are effective in the detection of smoke in a wide range of fires including smoldering fires. However, our experience has shown that they are particularly prone to false activation during periods of high humidity during the warmer months as well as condensation during the cooler months. Photoelectric smoke alarms are also particularly prone to false activations from salt spray/residue which makes them unsuitable in areas of coastal properties that are regularly exposed to prevailing sea breezes.

Ionisation smoke alarms are particularly effective at detecting fast flaming fires however, they are prone to false activations from cooking, steam from bathrooms and residual smoke particles (eg. from sugar cane burning).

The coronial inquest into the Slacks Creek fire identified that there were no working smoke alarms because the residents of the property had removed the batteries due to false activations. These alarms were identified as being ionisation alarms. If an ionisation or photoelectric smoke alarm false activates, our experience has shown that the occupant of the dwelling will temporarily disable the alarm.

It is our professional opinion that all residential properties should be fitted with a minimum of 1 photoelectric and 1 ionisation smoke alarm.

This would:

a) Ensure that there is a minimum of 2 working smoke alarms in each residential property;
b) Provide occupants with additional coverage across a wider range of fires;
c) Provide occupants with an additional smoke alarm if an alarm has been disabled;
d) Allow owners of residential properties to easily and cost effectively retrofit properties with compliant smoke alarms.

We believe that there are inherent risks involved with government endorsing one type of smoke alarm over another. It is a real possibility that, in a particular fire situation, a member of the public may be seriously injured or killed due to the presence of only one type of smoke alarm that has not operated effectively.

In conclusion, we recommend a combination of both photoelectric and ionisation smoke alarms to ensure the detection of fire in all residential dwellings and strongly suggest that all Queensland dwellings are required to be fitted with a minimum of one photoelectric and one ionisation smoke alarm on each level.

2. Be installed in all bedrooms

We do not support the requirement of smoke alarms to be contained in each bedroom.

Although considered good practice, we believe that it is not always suitable/appropriate for smoke alarms to be present in each bedroom. Our experience has shown that most smoke alarms whether photoelectric or ionisation will, at some point in their 10-year life span, false activate. People with intellectual disabilities or mental illnesses as well as children and the elderly can be dramatically affected by a false activating smoke alarm. Furthermore, people with difficulty sleeping, shift workers, nursing mothers, light sleepers, children, teenagers, among others can be affected by the flashing light “battery indicator” that is required on all smoke alarms in Australia by AS:3786-2015.

We believe that the requirement for every bedroom to be fitted with a smoke alarm would be counter-productive to the key outcomes of this legislation by encouraging a mindset that smoke alarms are an annoyance and are disabled as a result.

Further, the additional cost of installing additional smoke alarms in every bedroom could actively discourage property owners from complying with the legislation.

For example: A standard 3 bedroom home that is currently fitted with two hard-wired (240 volt) ionisation smoke alarms would need to have both of the alarms replaced as well as additional alarms installed in each bedroom. These alarms would need to be installed on a separate circuit, which would require additional wiring as well as additional work to be undertaken on the switchboard. The cost for a licensed electrician to retrofit this home could be expected to cost approximately $1000-$1200. This cost could dramatically increase for homes with more bedrooms or if the roof space of the home is inaccessable or if the property is a 2-storey home. Most households would consider this cost excessive and some households in financial difficulty could simply not afford this additional cost.

We would suggest that the Queensland government should encourage property owners to install smoke alarms in bedrooms but not require them to.

3. Between areas containing bedrooms and the rest of the dwelling, in any hallway servicing bedrooms and in any other storey of a residential dwelling

Current practice is that the specific locations of safety devices, fittings, fixtures and such are governed by Codes, such as The Building Code or Queensland Development Code/s or Australian Standards, such as AS/NZS 3000:2007 (the Wiring Rules).

Installing smoke alarms in correct locations is a complex task where many different factors need be taken into consideration. One factor, commonly referred to as “dead space”, is that locating a smoke alarm in areas such as; the corners of a room; the area of the ceiling adjacent to the walls of a room; in between exposed battens; can dramatically decrease the effectiveness of a smoke alarm. Other factors, such as proximity to ceiling fans, air conditioners and exhaust fans as well as proximity to bathrooms and laundries should also be taken into consideration when installing smoke alarms as these factors can also dramatically decrease the effectiveness of a smoke alarm.

Also, every home is different and can vary greatly from other homes with many different floor plans, construction types and alterations. The interpretation of the definition of a particular area can also vary greatly from person to person.

We consider that the locations of smoke alarms as well as definitions of the particular words and phrases used in the legislation should be contained within a Queensland Development Code that is overseen by an appropriate Queensland government department and that this section of the bill should refer to an appropriate code.

Clause 5 Amendment of s 104RBA (Owner must install smoke alarm)
Section (5) Each smoke alarm must-
(a) be powered in a way prescribed by regulation

As stated previously, we have not seen the regulations, but the media release states: *"These smoke alarms will need to be interconnected and either hard-wired (new and existing dwellings) or powered by a 10-year lithium battery (existing dwellings only)."*

As licensed electrical contractors, we have found that it may not be possible to install hard-wired (240 volt) smoke alarms in some properties at all, or without considerable building alterations and cost.

Most 240 volt smoke alarms available on the Australian market as well as most 240 volt smoke alarms currently installed in Australian homes contain an alkaline battery that is used as a back up and are replaced approximately every 2 to 3 years. It seems inconsistent that 9 volt smoke alarms be required to contain a lithium battery whilst 240 volt smoke alarms would not.

The majority of smoke alarms available on the Australian market are sold with and designed to fit the standard sized 9 volt alkaline batteries and may not function correctly if lithium batteries are retro fitted. Lithium batteries are fractionally bigger than the standard alkaline batteries. Even if lithium batteries are installed, an occupant can still remove the battery from the smoke alarm.

Our experience has shown that the lithium batteries currently available within the Australian market rarely last the specified, ten-year life span (in some cases lithium batteries have only lasted three years). Currently, the retail price for a 9 volt lithium battery is between $20 and $30. We believe that the inclusion of this requirement will add unnecessary costs to owners of domestic dwellings.

In an effort to reduce the current high price of lithium batteries, wholesalers and distributors may be tempted to import inferior quality lithium batteries and introduce them into the Australian market. The recent issues that have arisen from the importation and distribution of the inferior "Infinity cable" demonstrates the risks the importation of inferior lithium batteries could pose.

Further, to stop the alarm from sounding in the event of false activation, both 240 volt and 9 volt smoke alarms with a sealed lithium battery require the alarm to be permanently disabled (broken, rather than temporarily disabled by disconnecting the battery), leaving the occupants without a working smoke alarm.

Regular testing, maintenance and cleaning of smoke alarms is recommended by all manufacturers in their operating manuals. This is most commonly undertaken whilst replacing batteries. The requirement for owners/occupants to replace the batteries in smoke alarms encourages the owner/occupiers of residential dwellings to test and clean the smoke alarm, as well as promoting smoke alarm and fire awareness. We believe that this section of the legislation will either promote complacency regarding smoke alarms, that is, a "set and forget" mentality, or encourage owners/occupiers to dismiss all smoke alarm requirements due to the additional costs that lithium batteries pose.

Further, lithium is a toxic substance. The Australian Competition and Consumer Commission has advised that, if swallowed, lithium batteries can get stuck in a child's throat and burn through the oesophagus, causing severe burns or death. The most serious cases involve ten-cent sized lithium batteries, but all sizes are hazardous.

Also, unwittingly attempting to re-charge a lithium battery may cause it to catch fire. We have personally seen the aftermath of lithium battery fire where the tenant of the property attempted to charge a 9 volt lithium battery on a conventional battery charger with devastating results.

We think that the inclusion of this amendment has the potential to decrease the overall number of working smoke alarms in Queensland properties and to pose a serious risk to the public's health and safety.

Clause 5 Amendment of s 104RBA (Owner must install smoke alarm)
Section (5) Each smoke alarm must-
(b) comply with other requirements prescribed by regulation

As outlined previously, we have been unable to acquire a copy of the regulations for this bill. It appears that no regulations have been gazetted and our local member of parliament Leanne Donaldson (member for Bundaberg) has been unable to provide us with a draft copy of the regulations.

It is unclear what intentions/direction this part of the bill would entail.

Clause 5 Amendment of s 104RBA (Owner must install smoke alarm)
Section (5) Each smoke alarm must-
(e) be interconnected to every other smoke alarm installed in the dwelling

Whilst the interconnection of smoke alarms can provide additional warning to occupants in the event of a fire, our experience has shown that if all the alarms in a dwelling are interconnected and an alarm false activates, the occupants of the dwelling immediately disable all the smoke alarms, leaving the dwelling with no working smoke alarms.

The high cost of interconnecting smoke alarms, especially if they were required to be installed in every bedroom as well as in exit paths would actively encourage owners to disobey the proposed legislation.

Wireless 9 volt alarms currently cost approximately $90-$100, so a standard 3 bedroom home would, under the proposed legislation, require 4 or 5 wireless 9 volt alarms to be fitted. This would cost approximately $400-$500 and this cost could dramatically increase for homes with complex floor plans and/or 2 storey homes.

Hard-wired smoke alarms must by law be installed and interconnected by licensed electrical contractors. A standard 3 bedroom home would, under the proposed legislation, require 4 or 5 hard-wired smoke alarms that are interconnected. Manufacturer's warranties do not cover the interconnection of dissimilar smoke alarms, so existing smoke alarms would need to be replaced with alarms of the same make/model of additional smoke alarms. Also, because of electrical interference caused by other fittings on the lighting circuit (such as ceiling fans and fluorescent lights) the smoke alarms would be need to be installed on an additional circuit. This would cost approximately $1000-$1200 and this cost could dramatically increase for homes with inaccessible roof space, complex floor plans and/or 2 storey homes. The high cost of retrofitting hard-wired smoke alarms in a dwelling may encourage some property owners to disobey the proposed legislation or worse, attempt to retro-fit hard wired smoke alarms in their property themselves.

Additionally, the high cost of inter-connectable 9 volt and 240 volt smoke alarms has the possibility to encourage cheap imports that at best don't meet Australian Standards and at worst could pose a significant danger to Australian residents. The recent spate of fires caused by "hover boards" that do not meet Australian standards is an example of this.

We recommend a more prudent approach to the interconnection requirements of smoke alarms.
We suggest that smoke alarms be required to be interconnected only if they are more than 7 or 8 metres from the smoke alarm closest to a main exit of a dwelling and/or that one smoke alarm on each level be required to be interconnected.

As previously stated, the installation of smoke alarms is a complex task and we believe that the locations and any additional requirements (such as interconnection), should be governed by a Queensland Development Code.

Clause 9 Amendment of s 104RD (Testing smoke alarms)
Section 104RD(1)—

(1) Within 30 days before the start of a tenancy in a domestic dwelling, the lessor must test each smoke alarm in the dwelling in compliance with section104RAA

We consider that the testing and maintenance of smoke alarms in residential rental properties should be required to be provided by licensed and insured service providers. We submit that a relevant government department such as the Electrical Safety Office should be responsible for smoke alarm inspector licensing, compliance and disciplinary functions, similar to the functions of the Pool Safety Council.

Additionally, we would suggest the addition of a small window of 3 - 7 business days after the tenancy has commenced. This would allow property owners or their agents to comply with the legislation in cases where there is a quick tenancy turn around or in instances where a property has been vacant for an extended period and then the property is let urgently.

We would also suggest that this section include the requirement for smoke alarms to be tested at least once every 12 months from the date that the alarms were last tested.

Licensing system and additional testing requirements

We have suggested the introduction of a Queensland Development Code that would govern smoke alarm requirements, their locations and the definitions of related words and phrases, overseen by a relevant government department. We have also suggested that that the testing and maintenance of smoke alarms in residential rental properties should be required to be provided by licensed and insured service providers.

The recently introduced “Pool safety laws” governed by QDC mp 3.4 and overseen by the Pool Safety Council is an example of how such a licensing system could operate.

We believe that the Queensland Government should require owners of residential rental properties to obtain a “Smoke Alarm Compliance Certificate” from a licensed and insured service provider who has been trained and certified in the newly introduced Queensland Development Code in the following circumstances:

a) Before the property is made available for rent;
b) If the property is currently rented, within 12 months from the date of commencement of this Act;
c) A period specified by legislation. For example, every 1, 2 or 3 years.

Further, we believe that owner/occupiers should be required to obtain a “Smoke Alarm Compliance Certificate” from a licensed and insured service provider in the following circumstances:

a) Before any transfer date for the dwelling; or
b) Before the commencement of any building or construction works on the property; or
c) Before the commencement of any electrical work on the property.

The above requirements would be a more reasonable and enforceable approach to ensure that there is an ever-increasing number of compliant properties within Queensland.

We would urge the Legal Affairs and Community Safety Committee to recommend to parliament the introduction of a smoke alarm compliance system, and would encourage a “user pays” system for both licensing and “Smoke Alarm Safety Certificates”.

The benefits of this proposed system would be:

a) To ensure the safety of occupants of Queensland homes by ensuring that smoke alarms in residential properties are installed correctly, consistency and in accordance with the relative legislation and codes;
b) To provide a regulated and accountable industry which would in turn create additional jobs within the Queensland economy;
c) To provide the Queensland Government with an additional revenue stream that could be used to fund the relevant government department as well as provide funding for safety awareness campaigns.

Summary

In summary, the tabling of bills by both the Labor Party and the Liberal National Party implies bi-partisan agreement on the need to update Queensland's smoke alarm legislation. We suggest that the Queensland Parliament take this opportunity to introduce legislation that would be both enforceable and effective in keeping Queenslanders safe.

To our knowledge, in the nearly 9 years that the current legislation has been in force no one has been penalized or prosecuted under the current Act and think that this demonstrates the need for a specified government department to be responsible for overseeing the application of the legislation.

We agree with the key objectives of the Bill that would require all Queensland homes to be fitted with photoelectric smoke alarms but would suggest that ionisation smoke alarms be included and/or allowed. We also agree that smoke alarms should be required to be located in specific locations within every Queensland home.

These outcomes should be obtained not only through the use of legislation but also through the introduction of a Queensland Development Code that would govern smoke alarm requirements, their locations and the definitions of related words and phrases that is overseen by a relevant government department. We also suggest that that this code and the provision of a system for providing the testing and maintenance of smoke alarms in residential rental properties should be required to be provided by licensed and insured service providers.

Conclusion

We would welcome the opportunity to appear before the Legal Affairs and Community Safety Committee to discuss our submission and answer any questions the committee may have, as we believe our industry experience could be of great benefit to the committee's deliberations.

For additional information or clarifications, please do not hesitate to contact us [redacted]

Yours faithfully

Drew and Jacqui de Jager
Quickcheck Pty Ltd