

Smoke Alarm Solutions  
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Wednesday, 23 March, 2016

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

To Whom It May Concern,

**Re: Fire and Emergency Services (Domestic Smoke Alarms) Amendment Bill 2016**

This submission is presented by Smoke Alarm Solutions. We are Australia's largest provider of smoke alarm maintenance and compliance services to the real estate industry. In operation since 2007, we currently service in excess of 250,000 Australian homes located in Queensland, New South Wales, ACT, Victoria and South Australia. We provide comprehensive yet cost-effective solutions to ensure residential property managers, landlords and homes owners meet their duty of care and legislative obligations with regards to both State and Federal smoke alarm legislation and regulations, and to ensure safe homes for property occupants.

This Bill is incredibly important to us and we too wish for ensuing legislation to increase fire safety in Queensland homes, in an attempt to reduce injury and loss of life. We have witnessed many instances first-hand where fully functioning, correctly positioned smoke alarms have acted as they were intended to, and alerted occupants to dangerous fire situations.

We all too often hear the contrary to these stories too though - the worst being the death of 11 family members in the Slacks Creek fire in 2011, hence our enthusiasm to present feedback and alternative suggestions to both Bills presented before Parliament at present.

Letter to Stakeholders

As outlined in the letter to stakeholders, which was produced and distributed by the Legal Affairs and Community Safety Committee on 2 March 2016, the key objective of the Fire and Emergency Services (Domestic Smoke Alarms) Amendment Bill 2016 is to improve personal safety in domestic dwellings by requiring the installation of photoelectric smoke alarms in all dwellings thereby reducing the loss of life or injury.

The key outcomes of this particular Bill, which Smoke Alarm Solutions will aim to address within this submission include:

- 1. The use of photoelectric smoke alarms**
- 2. The use of interconnected smoke alarms, powered by an enduring power source**
- 3. Specific locations for new or existing residences**
- 4. Implementation timeframes for new dwellings, dwellings that are sold or leased, government-owned housing and domestic dwellings**

## **1. The use of photoelectric smoke alarms**

Smoke Alarm Solutions believes that the photoelectric style of smoke alarm is far more effective at detecting smoke and fire than antiquated ionisation technology. These views are shared by all Australian fire authorities. In addition to this, the Northern Territory State Government has already incorporated a similar clause into their smoke alarm legislation, which means no additional ionisation alarms will be installed in Northern Territory homes.

For over five years, our company has chosen to only ever install the photoelectric type of smoke alarm in properties we service, as we view these alarms to be more effective in real fire situations and cause less nuisance alarms (which can often lead to the removal of alarms and/or batteries by tenants or occupants). We strongly support this particular inclusion to the new legislation.

As previously stated within our last submission to the Legal Affairs and Community Safety Committee, we suggest that there be further clarification surrounding the installation of heat alarms in properties. We appreciate that there has been an acknowledgement of heat alarms within the new Bill however we are suggesting that further explanation is included, as our technicians are discovering an increasing number of heat alarms in the lower areas of properties upon property inspections. We feel that express mention of heat alarms not constituting compliant smoke alarms should be included within new legislation.

## **2. The use of interconnected smoke alarms, powered by an enduring power source**

Smoke Alarm Solutions believes that interconnecting smoke alarms would provide a much higher level of protection for occupants – especially for those properties with more than 1 storey. Occupants may become trapped in a property if a house fire were to start in a lower level of a home and they were not warned until the fire reaches the higher level/s.

It must be kept in mind though, that the cost involved to interconnect alarms can be incredibly high. Also important to keep in mind are the specific risks involved when interconnecting smoke alarms. Most smoke alarm manufacturers will advise within their manuals that interconnection with other brands may cause damage, electric shock, fire and can even void the warranty.

We have found that when a different model or brand of alarm is added to an interconnection loop, there is a high tendency for all alarms in the loop to begin false alarming. The only way in which to rectify this issue is to replace all smoke alarms in the loop and to ensure they are of the same brand. This can be an extremely costly exercise for a property owner or landlord.

Also of importance is that interconnection is incredibly difficult to retrospectively achieve if the property does not have a ceiling cavity for connections to be housed. These particular properties will require alarms that can communicate with each other wirelessly (through radiofrequency). This type of alarm is less readily available via a range of suppliers and is therefore usually positioned at a higher price point.

Another point for consideration when addressing amendments to current legislation is that technologically-advanced products, that are currently accessible, have the means to remotely test and clean smoke alarms. This technology also has the ability to communicate important messages to property occupants instantly via a third party. This type of device may offer a more effective and efficient manner in which to test, maintain and monitor smoke alarms and to ensure safety is enhanced. These devices need to fit within the scope of any changes to legislation.

As per our fourth suggestion in our initial submission, we feel that an 'enduring power source' is a welcome addition to the current legislation however we would like to make an additional suggestion. We would like to see further clarification that an 'enduring power supply' refers to the alarms being tamper-proof. We feel that the battery in a 9 volt smoke alarm should be 'tamper-proof' (with a hush button) and not simply a removable 10 year lithium battery, so that occupants' safety is enhanced. Although photoelectric alarms cause less nuisance false alarms, they are not perfect. An occupant can still simply remove a battery if the alarm is being a nuisance and forget to replace it, rendering the alarm useless. Having a hush button on an alarm will temporarily desensitise the alarm for about 8 – 10 minutes, giving the air time to clear, without the need to remove a battery and disabling the alarm

### **3. Specific locations for new or existing residences**

Both the 2015 and 2016 Bills suggest that smoke alarms be installed inside each bedroom of a property, which would provide a heightened level of protection as alarms positioned in hallways (as per current requirements) are sometimes out of ear shot and do not provide enough warning of dangerous fire, even though they are located in compliant locations.

As we have noted whilst conducting smoke alarm inspections in Queensland homes since 2007, the average number of required smoke alarms installed in every property is 1.6. If we consider an average-sized property with 3 bedrooms, it is safe to say that the average alarms per property will rise from 1.6 to 4.6 smoke alarms (a 287% increase), if alarms are now required in each bedroom.

We feel that the installation of smoke alarms inside each bedroom in a property is a more favourable outcome for home owners and landlords than retrospectively interconnecting smoke alarms, primarily due to the higher cost and risk factors of interconnection. We feel that the likelihood of properties meeting the new minimum safety standards would be lower than desired if interconnection of alarms was required.

If it were decided that smoke alarms were not required in each bedroom, we suggest that an additional, unambiguous definition be added to new legislation whereby the term "in an exit path for the storey" ascertains if an additional alarm is required in some properties. In our opinion, the easiest way to accomplish this would be by defining the distance in metres from a doorway (that has direct access to the open area) in which a smoke alarm is required.

We are often asked by our clients to outline why we have needed to install an additional smoke alarm outside a bedroom, for compliance. This would lead one to believe that many landlords who carry out the smoke alarm compliance steps by themselves are having difficulty determining exactly where an alarm would need to be positioned. It would be incredibly useful for service providers and property owners alike, if there was a precise location (determined by distance) as to where a smoke

alarm is required especially for those on a storey of the domestic dwelling that does not contain a bedroom.

Smoke Alarm Solutions believes that a minimum of **two** smoke alarms should be installed in a single hallway that has bedroom doors more than seven metres apart. We feel that one alarm per 7 metres in a hallway is not adequate protection. If a fire were to start in the back of a property and the occupants were sleeping seven metres away from the alarms, safe escape would be incredibly difficult as the occupants would be notified a great deal later than if an alarm was positioned near their bedroom.

#### **4. Implementation timeframes for new dwellings, dwellings that are sold or leased, government-owned housing and domestic dwellings**

As suggested in our submission dated January 29, 2016, we believe that the timeframes set out in Clause 9 Division 8 20 7 (a), (b), (c) and (d) of the Fire and Emergency Services (Smoke Alarms) Amendment Bill 2015 may not be adequate for landlords or owners to retrofit smoke alarms, if required under new legislation. This would be especially true for those landlords with lease end or start dates falling in the month or two following the commencement of the legislation amendment. Based on our company's reporting, it is fair to assume that stock and tradespeople available throughout Queensland may be less than that required in order to ensure all properties are brought up to compliance, within the proposed timeframes.

We believe that by removing the need to ensure compliance by the next lease start or end date (which could be a matter of only days after the introductions of this amendment), and by increasing the lead-in time to 18 months, there should be adequate time for properties to be brought in line with legislation.

Please find a summary following of our suggestions with regards to the current timeframes stated within the Fire and Emergency Services (Domestic Smoke Alarms) Amendment Bill 2016.

| Building Type            | Proposed Under Bill | Smoke Alarm Solutions' Suggestion                      |
|--------------------------|---------------------|--|
| New Dwellings            | 1-Jan-17            | Day after Bill enacted                                 |
| Dwellings Sold or Leased | 5 years             | <i>Sold</i> - Immediately<br><i>Leased</i> - 18 months |
| Government-Owned Housing | 5 years             | 18 months  |
| Domestic Dwellings       | 10 years            | 5 years  |

We feel that all newly constructed dwellings should immediately comply with newly implemented legislation as it is a great deal easier to ensure a property can accommodate the required number and type of smoke alarms whilst it is being constructed. There should be no restrictions to a new property meeting these safety standards.

We feel that the proposed timeframes of 5 and 10 years (respectively) for dwellings that are sold, leased, government-owned and domestic in nature, all have too long of a lead time to comply with legislation and there is not enough urgency created to ensure action is undertaken. Many catastrophic events have the possibility of occurring in the next 5 or 10 years, which is exactly what this legislation is aiming to reduce. This is why we suggest that when dwellings are sold, they are brought up to

standard by the seller prior to settlement and that properties leased or those that are government-owned meet requirements within 18 months and that owner-occupiers' properties meet requirements within 5 years. This will also allow for stock and tradesperson supply to facilitate the changes required to meet legislation.

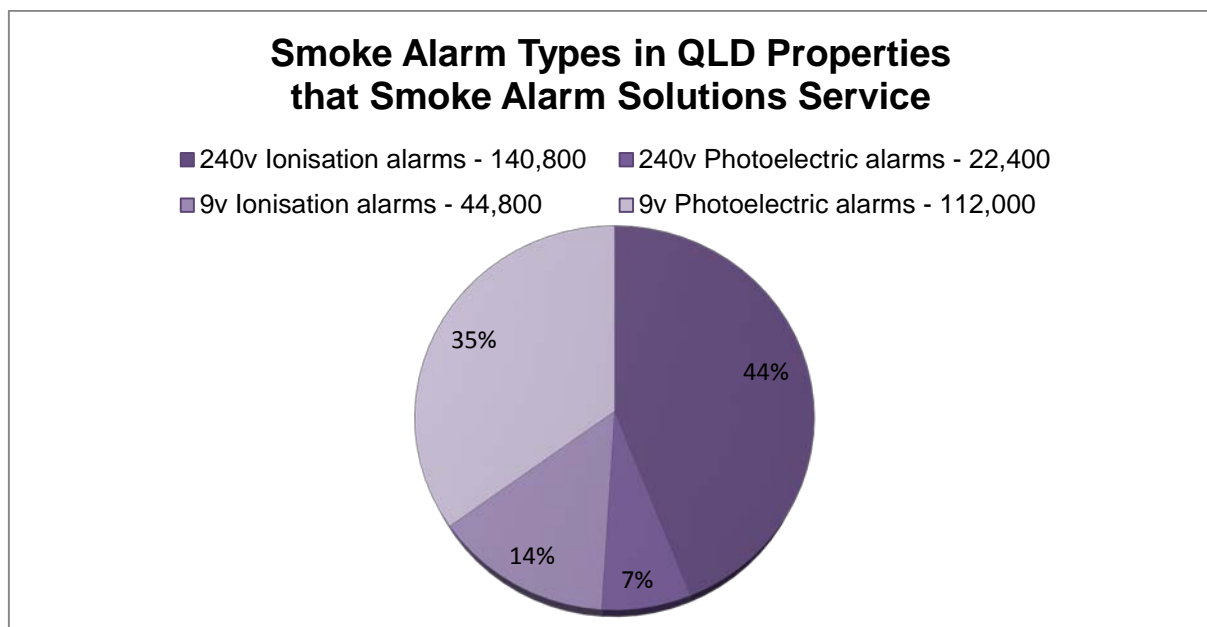
### Impact statement

It is fair to say that the proposed amendments to the Act, outlined in the 2016 Bill, would lead to a substantial financial cost for property owners and landlords.

In order to accurately represent the cost involved to meet the new level of compliance, we have provided an **approximate** cost breakdown, based on the number of properties we service, the alarm types installed and the approximate costs involved to bring properties to the new levels of compliance.

**Properties currently serviced by SAS in Queensland (March 2016)** 200,000

**Total number of smoke alarms installed in QLD properties (March 2016)** 320,000



### **Costs involved for existing homes to meet the new compliance standards, as suggested by Smoke Alarm Solutions**

1. Replacement of all 240 v ionisation smoke alarms with 240 v photoelectric smoke alarms
2. Replacement of all 9 v battery operated alarms (both ionisation and photoelectric) with 10 year tamper-proof lithium battery smoke alarms
3. Installation of 10 year tamper-proof lithium battery smoke alarms in all bedrooms

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1. *Replacement of all 240 v ionisation smoke alarms with 240 v photoelectric smoke alarms*

As there are 140,800 x 240 v ionisation smoke alarms installed in QLD properties which Smoke Alarm Solutions service, replaced at a cost of \$99-\$160<sup>^</sup> per alarm, the total cost to replace all 140,800 x 240v ionisation alarms is between \$14m – \$21m.

**Or \$70-\$105 per home**

2. *Replacement of all 9 v battery operated alarms (both ionisation and photoelectric) with 10 year tamper-proof lithium battery smoke alarms*

There are 156,800 x 9 v battery smoke alarms installed in the properties we service and if they are replaced with 10 year tamper-proof lithium battery smoke alarms at a cost of \$50-\$90<sup>^</sup>, the total cost for 200,000 properties is between \$7.80m and \$14.04m.

**Or \$39-\$70.2 per home**

3. *Installation of 10 year tamper-proof lithium battery smoke alarms in all bedrooms*

As the average home has 1.6 alarms at present and if we add an additional 3 x 10 year tamper-proof alarms per property (one per bedroom in an average 3-bedroom property), at a cost of \$50-\$90<sup>^</sup>, the total cost for 200,000 properties would be \$30m - \$54m

**Or \$150-\$270 per home**

***Total cost per home under the Smoke Alarm Solutions suggestion would be \$259-\$445<sup>^</sup>***

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The proposed changes as per the current Bill, would also include the addition of *interconnection* between existing and new smoke alarms.

The minimum approximate cost to interconnect existing smoke alarms, under the best case scenario (where they are no impediments to their connection) would cost approximately \$30-\$80<sup>^</sup> per alarm, in addition to the alarm cost.

- To interconnect 240 v alarms  
163,200 alarms (all 240 v) x \$30-\$80<sup>^</sup> = \$4.9m-\$13m

**Or \$24.5-\$65 per home**

- To interconnect *new* 10 year tamper-proof alarms  
156,800 (all 9 volt alarms) x \$30-\$80<sup>^</sup> = \$4.7m-\$12.48m

**Or \$23.5-\$62.4 per home**

- To interconnect alarms in bedrooms (in average 3 bedroom house)  
600,000 (3 x 200,000 properties) x \$30-\$80<sup>^</sup> = \$18m - \$48m

**Or \$90-\$240/home**

***Additional cost per home to interconnect existing alarms would be \$138-\$367\*<sup>^</sup>***

***The total cost per home to meet new safety levels under proposed current Bill would be \$397-\$812\*<sup>^</sup>***

\*These figures are only accurate under the best case scenario when there are no issues with the brands of alarms used and their compatibility, sufficient cavity in roof space to allow for alarm looping/wiring, when 10 year alarms can be interconnected and when house is one storey only. If these conditions are not met or if radio frequency technology was required to facilitate interconnection, the cost involved to interconnect the smoke alarms could increase four-fold.

^ Price range is based on lowest and highest cost charged by local service providers and electricians.