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23 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

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

Dear Sir/Madam,

Master Electricians Australia (MEA) appreciates the opportunity to comment on the *Fire and Emergency Services (Smoke Alarms) Amendment Bill 2016*.

MEA fully supports legislation being introduced that would require all residential accommodation to be fitted with hard-wired and interconnected smoke alarms.

MEA proposes the following:

1. MEA does not recommend mandating the use of one specific alarm type over another. The legislation should instead require, "working smoke alarms suitable for the location to be installed, correctly positioned and complying with the relevant building codes and regulatory standards". This would be consistent with Australian Standard "Fire detection, warning, control and intercom systems-system design, installation and commissioning" AS1670.6-1997, Appendix A which discusses fire and detection characteristics:

A4 ALARM SELECTION

A4.1 General *The object of any smoke alarm is to provide early warning of a fire in order to maximize escape time. Whilst attempting to reach the same objective, different detection principles, such as ionization or photoelectric, behave differently. In deciding which type to install, consideration needs to be given to the likely type of fire (smouldering or fast-flaming) and therefore the type of particulate matter and gases to be detected. The ambient conditions and the likelihood of the installation creating an unacceptable level of nuisance alarms should also be considered. A mixture of alarm types may be required to optimize detection results.*

2. Mandating only hard-wired smoke alarms complete with battery backup, as required by Australian Standards AS 3786:2015, for all domestic installations. The rationale being:
 - a) The combination of hard-wired with battery backup will ensure that the alarm will still function effectively should mains power or battery power fail. The argument that battery power would not be available during a mains power failure during a fire is not accurate. Well before a fire reaches the intensity that would trigger mains power failure, working smoke alarms would detect and the alarm would be activated.



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- b) According to regulations, only a licensed and qualified electrical person can install hard-wired smoke alarms. Mandating hard wired only smoke alarms ensures that all smoke alarms are installed safely, correctly and in accordance with the relevant codes and regulations

Allowing battery only smoke alarms for existing dwellings on the other hand will likely lead to owners and tenants installing their own smoke alarms and the following is likely to occur:

- (i) Smoke alarms not being installed in the correct location,
 - (ii) Smoke alarms not being interconnected correctly, either by cable or wireless connection,
 - (iii) Smoke alarms not being interconnected at all, due to the time required, lack of knowledge and financial considerations.
- c) There is little to no cost difference between having hard-wired smoke alarms installed and interconnected compared with battery only smoke alarms installed and interconnected.
3. An inspection and regulatory compliance/enforcement regime must be put in place to ensure that working smoke alarms have been installed correctly. This can be done via a body such as the Electrical Safety Office (ESO). The ESO already undertakes these activities to confirm the installation of safety switches. The inspections required are triggered by the sale of a domestic dwelling or the signing of a new lease for a rental property. A similar enforcement regime should apply to smoke alarms regulations.

Further comment

There are other measures, in addition to smoke alarms, that MEA believes would go a long way towards preventing smoke and fire related deaths. Electrical installations that are faulty and/or not properly maintained pose a serious fire risk. Data from the Australasian Fire Authorities Council indicates that 23% of house fires across all Australian states are caused by electrical fault¹. A large number of these fires can be avoided if the following measures are implemented:

Installation of safety switches on all capable sub-circuits

With the increasing availability of cheap imported electrical products, the risk of substandard electrical equipment faulting and creating a fire risk grows for unknowing consumers. Safety switches work to prevent fire by detecting the leakage to earth of current from a circuit and tripping the circuit within as little as 30 milliseconds. This technology not only saves lives directly by preventing electrocution but significantly reduces the risk of property damage and loss of life due to fire.

¹ Australasian Fire Authorities Council, *Accidental Fire Fatalities in Residential Structures: Who's at Risk*, October 2005

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Unfortunately, despite the deaths of four young tradespeople under the Home Insulation Program (HIP), no state or territory government has committed to legislation that would require safety switches on all final sub-circuits in all homes. This is despite the fact that one of the key recommendations emerging from the 2013 Coronial Inquest into three of the deaths under the HIP was an expansion of safety switch laws. In the Report of the Royal Commission into the HIP that followed in 2014, Mr Ian Hanger AM QC, also recommended that safety switch requirements be expanded throughout Australia. To date, neither of these recommendations has been actioned.

Safety switch requirements differ from state to state with some more comprehensive than others. However, importantly, no state or territory requires safety switches to be installed on all final sub-circuits in all homes with most applying only to power and/or lighting circuits. The fitting of safety switches on power and lighting circuits only, while providing some protection against electrical shock, leave the circuits that support appliances such as stoves, ovens, hot water systems and air-conditioners, unprotected.

A range of factors such as water ingress, screwing or nailing through live cables inside walls, and contact with damaged equipment can cause injury or death on circuits other than power and lighting, whilst the overwhelming and undeniable evidence that installation of non-complying electrical products (hard-wired or plug-in) are causing fires, hoverboards being the latest example, the installation of safety switches on all final sub-circuits will greatly reduce the risk of fires as well as death by electrocution.

MEA has been campaigning tirelessly for over five years for the expansion of safety switch laws. It is time for government to take immediate action and change safety switch laws before more lives are needlessly lost.

Yearly electrical inspections

The reality is that all electrical installations deteriorate over time, particularly those of lower quality. A further fire prevention method is a regular inspection of all household electrical installations every years. A periodic inspection by a licensed electrical contractor can reveal if any electrical circuits or equipment are overloaded, identify any electric shock risks and fire hazards, recognise any defective electrical work and highlight any lack of earthing or bonding. It is imperative that all homeowners are made aware of the importance of a yearly inspections of all electrical installations, including smoke alarms.

Stop the sale of noncompliant electrical articles

In addition to the above measures, it is imperative that smoke alarms and all electrical goods sold in Australia meet Australia's stringent safety standards. The recall of Infinity cables and the more recent raft of hoverboard battery and battery chargers deemed not to meet Australian standards, demonstrate the need for more stringent procedures to be put in place that would prevent faulty electrical product being made available to consumers.

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We recommend the following actions be taken to address the issues of non-compliant electrical goods:

- National implementation of the Electrical Equipment Safety System;
- Creation of a register of electrical products to facilitate an efficient safety recall; and
- Cooperation between Customs, the Australian Consumer and Competition Commission and state electrical regulatory bodies to prevent noncompliant product from entering the Australian marketplace.

In the interests of electrical safety and to prevent any further tragedies, we urge the Queensland government to support these measures going forward.

Finally, MEA strongly recommends that any regulatory measures addressing smoke alarms be accompanied by an awareness campaign educating the public about the importance of testing their smoke alarms regularly.

MEA would welcome any opportunity to be involved in future consultations on this critical safety issue.

Yours sincerely,



Gary Veenstra
State Manager - Queensland