

FIRE DIVISION

Date: 10 March 2016

The Chairman of Bill Committee on Fire Services (Amendment) Bill 2015
Legislative Council of the Hong Kong Special Administrative Region
of the People's Republic of China

Re: Fire Services (Amendment) Bill 2015 C3099

Further to 29 Feb 2016 LegCo initial meeting, please find attached the Hong Kong Institution of Engineers Fire Division supplementary comments to support the Fire Services (Amendment) Bill 2015 C3099 for your kind consideration.

Yours Faithfully,



Dr. WT Chan
Chairman of the HKIE Fire Division

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The Fire Division of the Hong Kong Institution of Engineers supports The Fire Services (Amendment) Bill 2015 (“the Bill”) and suggests it should be introduced as soon as possible. However, as building fire safety will inadvertently affect the life risk of occupants and emergency rescuers and damage of property in case of fire outbreak, the Division considers that the registration must be handled with care.

1. Only competent people should be qualified as Registered Fire Engineers (RFE). Competence comprises knowledge, skill, and ability to perform the requisite task and therefore only those who possess the required knowledge, training and experience should be registered as RFE.
2. To carry out a fire risk assessment, one has to be able to identify the fire hazards and the people at risk and suggests ways to mitigate the risk, provide emergency plan and training, and where necessary, review and update the fire risk as needed.
3. To identify the fire hazards, the assessor has to understand the properties of combustibles, as well as the conditions that these combustibles will burn or explode. He must possess a good understanding of the nature of fire, and should be able to assess the fire load and the respective fire size under all possible fire scenarios. The assessor shall also be able to assess who will be exposed to risk, e.g., the elderly or the disabled, and their behavior and capability to escape in case of fire.
4. To reduce the fire risk, one has to fully understand the functions and limitation of active and passive fire protections. Active fire protection refers to fire service installations and equipment (FSI), such as sprinkler, fire/smoke detector, manual fire alarm, fire extinguisher, fire hydrant & hose reel. The duty of the fire protection system is to extinguish and/or control the fire. Even the same installation has many types, e.g., sprinkler heads have different activating temperature and there are various types of smoke detectors responsive to flaming fires or smoldering fires. Wrong installation of FSI would result in undesirable situation.

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5. Passive Fire Protection attempts to contain or slow down the spread of fire/smoke from one compartment to the next, through the use of fire-resistant rated walls/floors, fire dampers, fire shutters, floors and doors. When Passive Fire Protection is applied to building structures, one should be able to ensure adequate fire protection to structural members of various kinds of building materials, understand the structural response subject to high temperature, thus maintaining the localized as well as overall stability of the building structure under fire exposure.
6. When looking at the elements of fire risk assessment, the Authority should only register the type of professionals who have received this specialized education, training and acquired such experience. In Hong Kong, fire risk assessments are complicated. In performing risk assessment for licensed premises, both the on-site and off-site risks may also need to be considered. The compatibility of adjoining occupancies and their associated risks should also be taken into account.
7. Many tragedies were originated from lack of a proper fire risk assessment. On 27 June 2015, the flammable starch-based powder exploded at a recreational water park at Formosa Fun Coast, New Taipei, Taiwan had led to over 500 injuries and fatalities. The event organizer appeared to have lacked the knowledge of fire science, overlooked the importance of fire safety management, used inappropriate fire extinguishers (FSI) to control the fire, while not providing a good emergency plan in case of emergency. A proper fire risk assessment by a competent fire engineer could have avoided the disaster.
8. We understand that currently, only FSD is performing risk assessment for licensed premises, imposing fire safety requirements and performing compliance checks. If these duties were delegated to the third parties, such people should possess similar knowledge and expertise so that fire safety standards for these licensed premises will not be lowered.

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9. The Division also supports the use of the name “Registered Fire Engineers”. When examining the contents of fire engineering degree programs in Hong Kong and around the world, fire science, fire safety management, human psychology and physiology, active and passive fire protection systems are well covered in detail. Yet professional fire engineers have to be assessed especially in their understanding of local fire regulations before they should be registered. “Registered Fire Engineers” categorically speaks out their role, duties and specialization. Incidentally, the person responsible for compliance FSI checks in FSD is known as Engineer (FSI) and all its staff have engineering background.

10. Since the launch of consultation of Registered Fire Engineers Scheme in 2007, the Fire Division in HKIE was established in 2008 with a view to assisting the Authority to implement the scheme, numerous continuous professional development courses and technical visits to strengthen the technical knowhow of fire engineers have been conducted since then.

11. Fire engineers in Hong Kong may have come from international fire consulting firms. When performing risk assessment, formulating fire safety requirement or doing compliance checks, they may bring in international perspectives which will interact with local authority to further improve fire safety in buildings.

12. We understand that in the past few years, there were talented fire engineers taking up jobs in Macau, China or other regions in the world. Similar third party certification systems are in place in many other parts of the world, and Hong Kong seems to be lacking behind in this aspect.

13. Saving time is saving money for a business. Delay in business operation means loss in revenue. If minor defects in the FSI compliance check are found, the re-inspection by FSD has to follow the queue. Including other paper works, the delay in business operation may be more than two weeks. If third party certification by RFE is allowed and the rectification is done in the shortest time, the RFE can perform the certification and thus the earlier issuance of license will certainly benefit the licensee.

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14. We support the Authority taking an incremental approach. But in the longer term, RFE can be deployed to perform annual inspection. During the compliance inspection, RFE can assess the situations and revise fire safety measures as necessary.

15. The Division is also interested in participating in any advisory committee, panels or boards that the Authority establishes for the Bill.

The Hong Kong Institution of Engineers
Fire Division
10 March 2016