Fire Safety Improvement in Private Buildings

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Introduction

1. Fire Services Department (FSD) is an emergency service responsible for fire-fighting and rescue operations within the territory of Hong Kong. It also formulates and enforces fire safety provisions for buildings in collaboration with other government departments and gives fire protection advice to the public.

2. Building fire safety provisions consist of both active and passive protection measures. Active protection comprises the provision of fire service installations and equipment (FSI) for fire detection and suppression within buildings, e.g. automatic sprinkler system, fire detection system, fire hydrant/ hose reel system. Passive protection aims at securing the structural safety of the building which includes the provision of means of escape, means of access for fire fighting and rescue, compartmentation within a building, separation between buildings as well as fire resisting construction of buildings. FSD is responsible for imposing the former provisions whereas Buildings Department is the authority to look after the latter.

3. Under Section 16(1) (b) of the Buildings Ordinance (HKSARG, 2000) the Building Authority may refuse to give its approval of any plans of building works without the certification of satisfactory provisions of FSI from FSD. The FSI requirements are formulated pursuant to the proposed use and occupancy of the building, and are prescribed in accordance with the Code of Practice for Minimum Fire Service Installations and Equipment (hereunder referred as the Code) (HKFSD, 1998).

4. The Code is reviewed and updated regularly to keep abreast of new fire protection technology and building designs. As such, there exists a gap between the standards of fire safety provisions in old buildings and that of those for new buildings, resulting in more recently constructed buildings being provided with more comprehensive FSI.

5. A major revision to the Code was made in 1973, which required the provision of automatic sprinkler system for commercial buildings over 30 m in height. This height limit was then removed in 1987 to require all new commercial buildings to be provided with automatic sprinklers.

6. Hong Kong is a small yet densely populated city which has the largest number of high-rise buildings crowded together. Following a number of tragic fires in the nineties, the government is fully aware of the fact that the fire safety provisions in old buildings are not up to present day standards. With a view to improving this situation, a series of Ordinances have been introduced since March 1997.

Fire Safety (Commercial Premises) Ordinance

7. After the fire occurred in Shek Kip Mei Hong Kong Bank Branch office in 1994, which inflicted 12 fatalities, the Fire Safety (Commercial Premises) Ordinance (HKSARG, 2001) was brought into operation on 2.5.1997. The gist of the Bill was to provide better protection from the risk of fire for users of certain kinds of Prescribed Commercial Premises (PCP) with a total floor area exceeding 230m^2. These included banks, off-course betting centres; jewellery and goldsmith shops; supermarkets; department stores and shopping arcades.

8. The enforcement programme for PCP was scheduled to last for 11 years and divided into four phases. Phase I focused at about 600 pre-1973 premises; phase II for 1973-1980 premises; phase III for 1980-1990 premises and the last phase will deal with other PCPs built after 1990. Up to the end of April 2002, FSD has inspected 899 prescribed commercial premises. Over 4,000 fire safety directions were issued and about 40 % of them were found complied with.

Fire Safety (Commercial Premises) (Amendment) Ordinance 1998 & Fire Safety (Commercial Premises) (Schedule 4 Amendment) Ordinance 2001

9. Following the disastrous No. 5 Alarm fire at Garley Building in 1996, which resulted in 40 fatalities and 81 injuries, and a series of fatal fires in late nineties, the coverage of the Fire Safety (Commercial Premises) Ordinance was extended to old commercial buildings irrespective of their size and uses. The first phase focused on 555 Specified Commercial Buildings (SCB) that was constructed before 1973. First phase inspections were completed before October 2001. The second phase aims at upgrading the fire safety standards of the 1000 or so SCB that were constructed before a substantially revised edition of the Code took effect on 1.3.1987. All commercial buildings designed to the standards laid down in this 1987 Code would have modern FSI that are very close to current standards. Up to the end of April 2002, FSD has inspected 676 SCB. Over 16,800 Fire Safety Improvement Directions were issued and about 20 % of them were found complied with.

Requirements of the Fire Safety (Commercial Premises) Ordinance

10. Owners and occupiers of PCP and SCB can be directed to upgrade their FSI by means of Fire Safety Direction/Fire Safety Improvement Direction (FSDn/FSIDn). The required additional FSI are essential items selected from the current standards; i.e.

    10.1 automatic sprinkler system;

    10.2 automatic cut-off devices for mechanical ventilating system;

    10.3 emergency lighting;

    10.4 fire hydrant and hose reel system;

    10.5 manual fire alarm system; and

    10.6 portable fire extinguishers.

    The time spans allowed for the owners/occupiers to comply with the FSDn/FSIDn range from three months to one year, depending on the type and scale of the improvement work.

Fire Safety (Buildings) Bill

11. To formulate the strategy to improve fire safety in private buildings, FSD conducted a territory-wide building survey in February 1998 to assess the fire safety conditions in different type of private buildings. The survey result indicated that within the 27,000 plus private buildings inspected, only 28% of them were rated as satisfactory in terms of FSI provision and building fire safety management. Amongst the different types of private buildings, the fire safety condition in composite (commercial/residential) buildings is the most unsatisfactory. The conditions of only 11% of these buildings were found satisfactory.

12. Following a 2-month public consultation that ended in late August 1998, the Fire Safety (Buildings) Bill was put forward to the Legislative Council in January 2001 for consideration. The objective of the Bill was to provide better protection from the risk of fire for users of Composite Building and Domestic Buildings. It was proposed that in the first ten years of the enforcement period, the owners and occupiers of the composite buildings would be required to upgrade the FSI provisions of their buildings through a mechanism similar to that adopted to enforce the Fire Safety (Commercial Premises) Ordinance. The Bill is now being examined by the relevant Bills Committee of the Legislative Council.

13. As an interim measure to improve the fire safety of composite and domestic buildings, FSD has set up a Building Fire Safety Inspection Force during the period of July 2000 and February 2002 to carry out inspections to 10,727 old private buildings. Irregularities such as "obstruction to means of escape" and "FSI lack of maintenance" in these buildings would be rectified in accordance with Fire Services Ordinance. In the course, building fire safety message was also dispatched through advisory letters and fire protection pamphlets.

Difficulties Identified in Upgrading FSI in Private Buildings

14. It is understood that many of the specified commercial buildings are of multi-ownership and some are not even managed by a management company. Therefore, working out a satisfactory funding arrangement may become a problem for the necessary upgrading work, in particular where common areas are involved. The problem is easier to be resolved in single-ownership buildings or those that have established Owners' Corporation.

15. The retrofitting of a standard sprinkler system or a fire hydrant and hose reel system to existing commercial premises/buildings sometimes will be thwarted by structural and space constraints due to the need for the provision of stored water supply. Spaces are also required for housing the booster pumps, valve group, electrical components and Fire Service Inlet.

16. There are also difficulties in gaining access into tenants' premises, in scheduling works, in overcoming congested space and service areas, in damaging expensive decorations and a host of minor practical considerations. Some owners may even encounter cash flow difficulty when all of a sudden they are required to pay their share on the improvement work.

Solutions in overcoming the difficulties

17. Home Affairs Department (HAD) has been assisting building owners to form Owners' Corporations. With the assistance of their liaison officers seminars and meetings are convened at the affected buildings or at the Building Management Resources Centres established by the HAD. Through these two-way communications, FSD and the Buildings Department are able to advise the affected owners and occupiers on how to carry out the upgrading works, and how to seek funding in respect of works in the common areas.

18. To address the concern of owners who may need financial assistance in carrying out the upgrading works, a Buildings Safety Improvement Loan Scheme has been set up with an initial commitment of 700 million Hong Kong dollars. Building owners can apply for a loan to meet all practical requirements for improving the safety and maintenance of their buildings. These requirements include structural works, fire safety improvement, building services, safety of slopes, etc.

19. To overcome the constraints in the provision of a water tank for the retrofitted sprinkler system, an improvised sprinkler system with water supplied from the existing fire hydrant/hose reel tank or directly fed from town's main, is considered acceptable. Buildings with no fire hydrant/hose reel system will be subject to individual consideration. Both FSD and Buildings Department have adopted a flexible and pragmatic approach in dealing with different cases.

Conclusion

20. The enactment of The Fire Safety (Commercial Premises) Ordinance is the first step to improve the fire safety in private buildings. In order to reduce the hardship and inconvenience of the owners and occupiers to the minimum, FSD has been taking a pragmatic and flexible approach in enforcing the law. Apart from upgrading the FSI provision in old buildings, we also wish to arouse the fire safety awareness among the people of Hong Kong. We have been doing a lot of fire safety publicity since 1997. The fire safety ambassador scheme has been launched in the same year and up to now we have recruited and trained up over 24,000 fire safety ambassadors. They help us to disseminate the fire safety message and report fire hazards to us for follow up action. By working together, I hope we will make Hong Kong a safe city.

References

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