

Bills Committee on Fire Safety (Industrial Buildings) Bill

Government's Response to Issues Arising from the Bills Committee Meeting on 14 January 2019

Purpose

This paper sets out the Government's response to issues in respect of the Fire Safety (Industrial Buildings) Bill ("the Bill") raised at the meeting of the Bills Committee on 14 January 2019.

The distribution of ownership and management of target industrial buildings (IBs) under the Bill

(Item (a) on the list of follow-up actions)

2. Having checked the information of the Land Registry, amongst some 1 100 IBs constructed in or before 1987¹ in the territory, over 50% of them are established with owners' corporation (OC), nearly 30% are under single ownership, and about 20% are under multiple ownership without OC. The relevant figures are tabulated below –

	Established with OC	Single Ownership	Multiple Ownership without OC	Total
IBs constructed in or before 1987 (Nos.)	584	317	258	1 159
Percentage (%)	51%	27%	22%	100%

3. The Buildings Department (BD) and the Fire Services Department (FSD) do not keep statistics on whether these old IBs have

¹ Buildings to be regulated under the Bill are IBs constructed on or before 1 March 1987, or those with their building plans first submitted to the Building Authority for approval on or before that date. As both BD and FSD have not yet carried out comprehensive inspection in respect of these buildings, we have thus initially adopted, based on the BD's records, IBs constructed in or before 1987 (i.e. with the Occupation Permit issued) (over 1 100 numbers) as the indicator. We believe that these 1 100 IBs should cover the majority of buildings to be regulated under the Bill. More accurate figures will be available after the two Departments have conducted comprehensive inspection. References to the some 1 100 IBs constructed in or before 1987 as referred to in this document should be seen in this light.

appointed property management companies or not. With regard to the experience of the two Departments in enforcing the Fire Safety (Commercial Premises) Ordinance (Cap. 502, FS(CP)O), most old commercial buildings have appointed property management companies to assist in building management. We are of the view that the situation of IBs should be similar in nature to the commercial buildings. As noticed by FSD during its regular inspections, most IBs have appointed property management companies in providing property management service. Therefore, the difficulty in coordinating the improvement works amongst the owners of IBs should be relatively low.

Geographical distribution of target IBs
(Item (b) on the list of follow-up actions)

4. With regard to the target IBs to be regulated under the Bill, FSD and BD will carry out comprehensive inspection when the Bill is enforced upon enactment. The distribution of the IBs concerned by District Council district is as follows –

Region	District Council	Total
Hong Kong	Central & Western	8
	Eastern	65
	Southern	46
	Wan Chai	1
	<i>Sub-total</i>	<i>120</i>
Kowloon	Kowloon City	64
	Kwun Tong	255
	Sham Shui Po	86
	Wong Tai Sin	50
	Yau Tsim Mong	55
	<i>Sub-total</i>	<i>510</i>
New Territories	Kwai Tsing	207
	North	10
	Islands	2
	Sai Kung	8
	Sha Tin	47

Region	District Council	Total
	Tai Po	52
	Tsuen Wan	95
	Tuen Mun	69
	Yuen Long	39
	<i>Sub-total</i>	529
Total		1 159

5. Besides, FSD and BD will carry out inspection to the IBs under their respective purview and take appropriate follow-up or enforcement actions in accordance with relevant legislation (such as the Fire Services Ordinance (Cap. 95), the Buildings Ordinance (Cap. 123) and the Dangerous Goods Ordinance (Cap. 295)). The Departments do not keep statistics of those inspected IBs by districts or building age (e.g. whether or not the building is constructed in or before 1987).

Current status of fire service installations and equipment (FSIs) as well as fire safety construction in target IBs and the fire safety improvement works required as well as the estimated cost
(Item (c) on the list of follow-up actions)

6. The fire safety measures in existing buildings generally meet the standards prevailing at the time of their construction. As far as FSIs are concerned, the provision of FSIs in a building should be in compliance with the requirements as stipulated in the prevailing “Code of Practice for Minimum Fire Service Installations and Equipment” (the FSI Code). Hence, the target IBs to be regulated under the Bill should have been installed with those FSIs which are in compliance with the requirements of the FSI Code at the time of their construction. However, the FSI Codes at different times have some differences in terms of the FSIs required of an IB. For example, the provision of emergency lighting, exit signs and automatic cut-off device for the mechanical ventilating system was generally not required for IBs constructed in or before 1987. On the other hand, some of the IBs constructed in or before 1973 were also not required to be equipped with automatic sprinkler system.

7. The Bill aims at improving the fire safety of old IBs, and automatic sprinkler system and fire hydrant and hose reel system (FH/HR) are two types of highly effective FSIs. Automatic sprinkler

system is capable of limiting or extinguishing a fire prior to the arrival of firefighters, while FH/HR provides a source of water supply for firefighting. According to the requirements under the Bill, the target IBs would need to provide or improve the FSIs in accordance with the fire safety directions (FSDns) issued by the Enforcement Authorities. For automatic sprinkler system and FH/HR, FSD has looked into whether these two FSIs have been installed in those IBs to be regulated under the Bill, with details tabulated below –

Summary of the status in respect of the installation of automatic sprinkler system and FH/HR in IBs constructed in or before 1987					
	Without automatic sprinkler system		Automatic sprinkler system installed in part / whole of the IB*		Total
	Without FH/HR	With FH/HR	Without FH/HR	With FH/HR	
IBs constructed in or before 1973 (Nos.)	17	275	0	118	410
IBs constructed between 1974 and 1987 (Nos.)	7	45	0	697	749
Total	24	320	0	815	1 159

* Improvement works in accordance with the requirements of the Bill are required if the automatic sprinkler system installed cannot comply with the requirements of the “Code of Practice for Minimum Fire Service Installations and Equipment 2012”.

8. As for fire safety construction, BD has examined the building plans or relevant records of 590 of the target IBs to be regulated under the Bill, and noted that over half of them meet the modern standards in terms of the means of escape, but improvement works pursuant to the Bill are required to be carried out for the other 30% to 40% of them. As for the means of access for firefighting and rescue (i.e. improvement or provision of fireman’s lifts), it is noted that 70% of the IBs constructed in or before 1973 and 50% of those constructed between 1974 and 1987

have to carry out improvement works. Regarding fire resisting construction, although some related facilities or installations (such as fire doors and fixed windows of required staircases) may be available in some old IBs, they still considerably fall short of the current standard. BD will therefore also require relevant improvement works to be carried out. Statistics regarding the 590 IBs examined by BD are tabulated below –

Summary of measures required to enhance fire safety construction for IBs constructed in or before 1987[#]				
	Means of escape (e.g. protection of exit routes and staircases; provision of protected lobbies to special hazard rooms adjoining escape staircases)	Means of access for firefighting and rescue (i.e. improvement or provision of fireman's lift)		Fire resisting construction (e.g. replacement of fire doors with adequate fire resistance rating and provision of enclosure to non-emergency services)
		Improvement works required	No improvement works required*	
IBs constructed in or before 1973 (%)[#]	35%	70%	30%	100%
IBs constructed between 1974 and 1987 (%)[#]	40%	50%	50%	100%

[#] Analysis conducted based on the 590 target IBs examined by BD.

* Including target IBs meeting modern standards, and those that are not required to provide fireman's lifts due to original designs, spatial and ownership constraints.

9. In addition, the owners of certain IBs may have voluntarily added certain FSIs or carried out works in relation to fire safety construction in compliance with the more recent fire safety standards since their completion. When the Bill is enforced upon enactment, FSD and BD will inspect each target IB and ascertain the situation of the IB before issuing FSDns to require the owners and/or occupiers to upgrade the FSIs and fire safety construction of such buildings for meeting the currently required standards.

10. The requirements of fire safety improvement works may differ depending on the conditions of individual IBs (such as height, area, layout and the existing provision of FSI of the building). As such, the corresponding costs of works will vary. FSD and BD conducted a technical feasibility study earlier, under which three old IBs of different ages and scales were selected for on-site inspection. Items requiring improvement in fire safety standards with reference to the prevailing standards were identified, together with a rough estimation of the costs associated with the improvement works. Initial assessment and cost estimation of two cases are provided below for reference of the Bills Committee.

Case 1

Under the requirements of the Bill, a 7-storey IB constructed in 1959 with 14 units would need to carry out the following fire safety improvement works –

FSIs

- (i) to provide an automatic sprinkler system;
- (ii) to provide exit signs;
- (iii) to provide emergency lighting;
- (iv) to improve an FH/HR;
- (v) to improve a manual fire alarm system;
- (vi) to improve a secondary source of electrical power supply;

Fire safety construction

- (vii) to upgrade the fire resistance rating of fire doors of special hazard rooms adjoining escape staircases;
- (viii) to provide fixed lights with adequate fire resistance rating;
- (ix) to provide enclosures with adequate fire resistance rating to non-emergency services within escape staircases; and
- (x) to provide fire doors with adequate fire resistance rating.

According to the Departments' rough estimate, the cost of the aforementioned works (including 10% contingency) is approximately \$4,101,000, or \$293,000 per flat on average.

Case 2

Under the requirements of the Bill, a 28-storey IB constructed in 1977 with 105 units would need to carry out the following fire safety improvement works –

FSIs

- (i) to provide an automatic sprinkler system;
- (ii) to provide emergency lighting;
- (iii) to improve exit signs;
- (iv) to improve an FH/HR;
- (v) to improve a manual fire alarm system;
- (vi) to improve a secondary source of electrical power supply;

Fire safety construction

- (vii) to provide fixed lights with adequate fire resistance rating;
- (viii) to provide enclosures with adequate fire resistance rating to non-emergency services within escape staircases;
- (ix) to provide fire doors with adequate fire resistance rating; and
- (x) to provide fireman's lifts.

According to the Departments' rough estimate, the cost of the aforementioned works (including 10% contingency) is approximately \$22,370,000, or about \$213,000 per flat on average.

Difficulties that may be faced by owners and occupiers of target IBs (Item (d) on the list of follow-up actions)

11. We consider that, when carrying out improvement works in old IBs in accordance with the Bill, the owners or occupiers of the target IBs may face difficulties similar to those faced by owners or occupiers of old commercial buildings under FS(CP)O. The possible difficulties to be faced by the owners or occupiers of IBs, and the support to be provided by the departments concerned are set out in the ensuing paragraphs.

Building structure and technical issues

12. Generally speaking, when conducting fire safety improvement works in old buildings, a relatively common technical difficulty encountered by the owners is the installation of fire service water tanks for the supply of water for the automatic sprinkler system or the FH/HR. With reference to the Departments' experience in enforcing FS(CP)O, since the rooftop of most commercial buildings is a common part of the buildings and not under private ownership, the installation of fire service water tanks on the rooftops pursuant to FS(CP)O typically faces fewer constraints in terms of ownership or building structure. We consider that it would be similar for installation of fire service water tanks in target IBs.

13. As regards the other fire safety requirements for old IBs under the Bill (such as improving exit signs, providing fire doors with adequate fire resistance rating, etc.), the technical feasibility study conducted by FSD and BD earlier reveals that it is technically feasible to carry out these fire safety improvement works in old IBs, and they are not expected to pose much difficulty for the owners or occupiers.

14. When enforcing the Bill in future, FSD and BD will assign dedicated case officers to follow up cases of individual IBs and provide technical advice and assistance. Where necessary, FSD and BD staff will attend seminars to explain to the owners and occupiers the requirements of the improvement works and the assistance available to them. FSD and BD's officers will also take other proactive measures to assist the owners and occupiers to comply with FSDns.

15. The Departments will handle each case in a flexible and practical manner. Based on the conditions of individual buildings (for instance a structural integrity issue) and the information submitted by the owners, occupiers or Authorised Persons, the Departments will carefully consider accepting alternative proposals put forth by the owners or occupiers. If suitable and technically feasible options are identified, which can also meet the purpose of enhancing fire safety, the Departments will actively consider them and provide assistance as far as practicable.

Coordination of owners

16. As mentioned in paragraphs 2 and 3 above, a majority of the target IBs is either under single ownership or have formed OC, and most of them have engaged property management companies. This would be

of great help in facilitating and coordinating amongst owners as well as implementing of the fire safety improvement works.

Financial issues

17. Owners of old IBs who need to conduct improvement and building repair works (including fire safety improvement works) may apply for the Building Safety Loan Scheme launched by BD. The Scheme offers loans (subject to a ceiling of \$1 million per unit of accommodation) to individual owners of private buildings for carrying out maintenance and repair works to improve the safety of their buildings.

**Security Bureau
Buildings Department
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