

**For discussion
on 11 April 2017**

Legislative Council Panel on Security

Legislative Proposal for Improving Fire Safety of Old Industrial Buildings and Related Issues

Purpose

This paper seeks Members' views on the preliminary legislative proposal for improving the fire safety of old industrial buildings, and updates Members on the progress of the inspections of and enforcement actions against mini-storages with fire safety-related irregularities.

Background

2. While the existing industrial buildings meet the prevailing fire safety standards at the time of their construction¹, older industrial buildings may fall short of the modern-day standards. For example, installation of an automatic sprinkler system, a highly useful fire services installation capable of limiting the spread of a fire prior to the arrival of firefighters, was only required for some of the industrial buildings built before 1973². The Fire Services Department (FSD) then amended the requirements to require all industrial buildings and godowns built after March 1973 of more than two storeys to be equipped with automatic sprinkler systems. In 1987, the FSD's Code of Practice on Minimum Fire Service Installations and Equipment (CoP) was further revised to govern the fire service installations and equipment (FSI) of buildings built thereafter, including extending the requirement of installing automatic sprinkler systems to all industrial buildings, irrespective of height. This version of the CoP also

¹ The planning, design and construction of an industrial building is required to comply with the prevailing Buildings Ordinance (Cap. 123) as well as the relevant regulations and codes of practice, including the requirements on the provision of means of escape, fire resisting construction, means of access for firefighting and rescue, whereas the fire service installations and equipment should be provided according to the CoP published by the FSD which is in force at the time of the submission of the relevant building plans.

² Industrial buildings built before 1973 were subject to a less stringent set of requirements, in that sprinkler installation was "only required in compartment exceeding 250 000 cubic feet (i.e. about 7 000 m³) and basement for storage exceeding 5 000 square feet (i.e. about 500 m²). For godowns and warehouses, requirements of a sprinkler system were determined by the Director of Fire Services on a case-by-case basis."

incorporated modern standards very close to the prevailing ones today (published in 2012)³.

Preliminary Legislative Proposal

3. The two fires at old industrial buildings⁴ at Ngau Tau Kok and Cheung Sha Wan in June and July 2016 heightened concern over the fire risks of old industrial buildings, in particular their lack of automatic sprinkler systems. There is a need to bring the fire safety of these buildings to a higher standard to provide better protection to occupants and visitors. Our targets would be industrial buildings built before 1987.

4. The upgrading of fire safety standards in pre-1987 industrial buildings would require works to be carried out (e.g. installation of certain FSI, enhancement of fire safety construction, etc.). The owners and, in some cases, occupiers would have to bear the costs. This cannot be achieved through a scheme of voluntary compliance. Legislation is required to achieve the objective of upgrading the safety standards.

5. Our proposal is therefore to introduce a new piece of legislation to make it mandatory for owners and occupiers of pre-1987 industrial buildings to upgrade the provision of FSI and fire safety construction, as per the direction of the Director of Fire Services (DFS) and Director of Buildings (DB) (Direction). This is the same legislative approach adopted in the Fire Safety (Commercial Premises) Ordinance (Cap. 502) in respect of pre-1987 specified commercial buildings and prescribed commercial premises, and the Fire Safety (Buildings) Ordinance (Cap. 572) in respect of pre-1987 composite buildings and domestic buildings.

6. Under this legislative approach, DFS and DB will be empowered to issue Directions to require owners and/or occupiers of pre-1987 industrial buildings to improve the fire safety measures of their buildings to satisfy the required standards. The buildings would be required to carry out some or all of the following measures, depending on the actual circumstances –

³ Compared with the 1987 edition of the CoP, the 2012 edition is not substantially different in respect of the types of FSI required to be provided, but the detailed technical standards of individual types of FSI have been enhanced.

⁴ The two industrial buildings were built in 1961 and 1963 respectively.

Measures relating to the provision of FSI (to be enforced by FSD):

- (a) installation of an automatic sprinkler system;
- (b) provision of emergency lighting;
- (c) provision of sufficient directional and exit signs;
- (d) provision of a secondary source of electrical power supply;
- (e) provision of a fire hydrant/hose reel system;
- (f) provision of a fire alarm system;
- (g) provision of a fire detection system in areas not covered by sprinkler system (e.g. meter rooms);
- (h) provision of an automatic cut-off device for the mechanical ventilating system to limit the spread of smoke;
- (i) provision or improvement of other FSI in accordance with the 2012 edition of the CoP;

Measures relating to fire safety construction (to be enforced by the Buildings Department (BD)):

- (j) provision of adequate means of escape;
- (k) provision of means of access to facilitate access for firefighting and rescue; and
- (l) provision of fire resisting construction to inhibit the spread of fire and to ensure the integrity of the structure of the building.

The enforcement authorities may exercise flexibility in accepting alternative proposals, e.g. where a certain building faces genuine technical problems with fully complying with the set standards, provided that basic fire safety is not compromised.

7. A Direction would specify the fire safety improvement works required and a reasonable period of time within which the owners or occupiers must comply with the Direction. In case of non-compliance, the enforcement authorities may apply to the Magistrate for a Compliance Order, directing an owner or occupier to comply with the requirements. If an owner or occupier fails to comply with a Direction or a Compliance Order, and where there could be substantial fire risks, the authorities may also apply to the District Court for a Prohibition Order prohibiting the occupation of the building. Failure to comply with a Direction, a Compliance Order or a Prohibition Order shall be an offence⁵.

⁵ The punishments of these offences under the extant Cap. 502 and Cap. 572 are summarised as follows:

(a) failure to comply with a Fire Safety Direction: a fine at level 4 (i.e. \$25,000) and a further fine of \$2,500 for

A Study on Technical Feasibility

8. FSD and BD have conducted a study on the technical feasibility of mandatorily requiring pre-1987 industrial buildings to upgrade the fire safety provisions of the buildings to modern standards. Overall, the study finds it generally feasible to carry out the necessary fire safety improvement works for pre-1987 industrial buildings. For instance, the loading capacity of pre-1987 industrial buildings is generally high enough for installation of new fire service water tanks. In addition, the major improvement works relating to fire safety construction, i.e. the provision of fixed lights for exit staircases and the replacement of exit doors with adequate fire resistance rating are also technically feasible.

9. That said, the study reveals that building structure and actual circumstances would make it difficult for pre-1987 industrial buildings already in existence and being occupied to add firefighting and rescue stairways as well as provide refuge floors and staircase interchanges. The new legislation will therefore not require such works to be carried out.

Inspection of mini-storages and follow-up

10. The fire which broke out in the mini-storage at Amoycan Industrial Centre in June 2016 exposed the unique fire risks of mini-storages. Shortly after the fire, FSD, BD, the Lands Department and the Labour Department started a territory-wide inspection of mini-storages in the same month. The aim of the operation is to promptly improve the fire safety of the mini-storages under the existing law.

11. A total of 885 mini-storages have been identified by the departments. They have carried out inspections under their respective laws and are in the process of taking enforcement actions against mini-storages where irregularities have been found. Among others, FSD has issued 2 548 Fire Hazard Abatement Notices to 453 persons in charge of the relevant mini-storages, and BD has issued 976 statutory orders in respect of 455 mini-storages by end February 2017. The irregularities identified included –

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- each day or part of a day during which the failure continues;
 - (b) failure to comply with a Compliance Order made by a Magistrate: a fine at level 5 (i.e. \$50,000) and a further fine of \$5,000 for each day or part of a day during which the failure continues; and
 - (c) failure to comply with a prohibition order made by the District Court: a fine of \$250,000, imprisonment for 3 years, and a further fine of \$25,000 for each day or part of a day during which the failure continues.

- (a) undesirable types of locking devices for escape doors;
- (b) insufficient coverage of the hose reel system;
- (c) insufficient exit signs and directional signs;
- (d) obstruction to/insufficient number of windows;
- (e) undesirable arrangement of storage cubicles;
- (f) inadequate width of the means of escape along the aisles between the storage cubicles; and
- (g) the layout of the storage cubicles causing excessive travel distance in the escape route.

12. Over the past months, FSD and BD have been in communication with mini-storage operators and relevant business associations on various occasions, explaining the enforcement actions being taken and ways of compliance. The departments noted that certain members of the trade have expressed difficulties in complying with certain requirements. Lately, the departments are studying some alternative proposals from the trade for meeting the prescribed fire safety requirements. However, the departments have stressed that public safety considerations must come before commercial interests in law enforcement.

Way Forward

13. In the coming months, we will continue to formulate the details of the legislative proposal and consult the stakeholders, including the relevant trade associations and professional bodies. Our plan is to introduce the bill in early 2018. Meanwhile, the relevant departments will continue their enforcement efforts against irregularities identified in mini-storages.

Advice Sought

14. Members are invited to comment on the above preliminary legislative proposal, and note the latest progress of inspections and enforcement against mini-storages.

Security Bureau
Buildings Department
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April 2017