

Mini Storage, Big Questions

The recent tragic fire at a self-storage facility in Ngau Tau Kok heralds a long overdue examination of how such facilities are run in Hong Kong.

May Chan Rhodes



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Older industrial buildings in Hong Kong that were completed before 1973 are not, at this moment, legally required to be fitted with sprinklers. (Photo: Thinkstock)

“Simply using old industrial buildings for non-industrial purposes is not in itself equal to ‘revitalisation’ under the current government policy. It is actually illegal.”

The Amoycan Industrial Centre fire began on June 21 and raged out of control for more than 80 hours, making it Hong Kong’s longest-burning fire in two decades while tragically claiming the lives of two firemen.

The blaze started in a mini-warehouse and self-storage facility located on the third floor of the old industrial building. The facility is one of about 500 in Hong Kong that serve more than 100,000 families, according to Self Storage Association Asia. Regulation remains an issue for these facilities, as there are no legal parameters for mini-storage centres in Hong Kong and no requirements regarding the locations of such facilities.

Professor Chow Wan-ki, JP, Chair Professor of Architectural Science and Fire Engineering, and Head of Department at the Department of Building Services Engineering at The Hong Kong Polytechnic University, says self-storage facilities need to step up their fire safety management.

Under the current practices, he explains, officers face a number of difficulties when carrying out fire safety inspections which make it harder to determine whether fire safety ordinances have been breached. On one hand, customers are not required to give owners a list of goods stored. On the other hand, operators may seek to maximise profits by subdividing units into poorly ventilated cubicles, where goods are piled to the ceiling to maximise storage.

This unfortunate combination makes mini-storage facilities vulnerable to ventilation-controlled fires, a more dangerous type of fire that occurs when there is not enough air to burn all the combustible materials completely. Subsequently, when oxygen enters the area, the fire flares up rapidly and releases a large amount of heat and smoke, making it difficult to control. The potential for high thermal radiation heat fluxes – which can reach over 100 kilowatts per square metre (kW/m²) after “flashover”, the near-simultaneous ignition of most of the directly exposed combustible

material in an enclosed area – and their possible effects on firefighters must be carefully monitored.

To make matters worse, the haphazard layout of many facilities includes small pathways with many twists and corners. When a fire occurs, it can be extremely difficult for those on site to make their way to the fire exits, particularly amid thick smoke. Convoluted interiors also exacerbate fire rescue efforts, as firemen struggle to locate the source in the maze of corridors.

Due to the lack of regulation in Hong Kong, self-storage facilities are scattered among industrial buildings of varying conditions. For example, industrial buildings completed before 1973, including the Amoycan Industrial Centre, were not required to be fitted with automatic sprinkler systems.

“Luckily, mini-warehouses are not usually full of people, unlike shopping malls or a subway station,” Chow says. “Otherwise, a fire on the premises could put many lives at risk.”

Sr Vincent Ho Kui-yip, JP, Managing Director of Freevision, Immediate Past President of the HKIS and Chairman of the HKIS Building Policy Panel, says the safety concerns faced by self-storage facilities highlight the bigger issue – multi-purpose venues in dated industrial buildings. He estimates that there are about 500 dated industrial buildings without modern fire safety facilities, out of which more than 300 have multiple purposes – ranging from dance or yoga studios and adventure game centres (that include fixtures such as trampolines and rock-climbing walls) to restaurants.

To complicate matters, many of these old industrial buildings suffer from sub-standard building management and maintenance due to “chaotic” multiple ownerships, Ho says. “These premises, which are sometimes neighbours to mini-warehouses, tend to attract crowds,” Ho says. “They are not closely monitored by relevant government departments in terms of fire safety, either.”

“Those who fail to observe the regulations should be faced with liabilities stipulated under their leases and the possible termination of the leases.”

Ho explains that the numbers of these premises mushroomed in the name of revitalising old industrial buildings, but this concept of “revitalisation” is fundamentally wrong. “Old industrial buildings need to undergo renovation to meet modern standards. Simply using the space for non-industrial purposes is not in itself equal to ‘revitalisation’ under the current government policy. It is actually illegal. It contravenes the Building Ordinance and land lease, and needs to be addressed by law enforcers.”

In the long term, Ho says, the government needs to decide how to regulate mini-storage facilities and how old industrial buildings are used. In the meantime, it needs to step up inspection of such facilities to ensure that fire safety regulations are not breached.

Sr C K Lau, President of the HKIS, Chairman of the HKIS Land Policy Panel and an International Director of Jones Lang LaSalle, says it is important to recognise the role of mini-storage facilities in greatly freeing up space at home and work and reducing the cost of storage.

He says the government could consider making it mandatory for these facilities to be equipped with automatic sprinklers. This could prompt them to migrate to more up-to-date buildings, and give incentives for old industrial buildings to undergo structural updates and install sprinkler systems.

While the government has announced the launch of a city-wide inspection of all mini-storage facilities, Lau suggests that landlords and mini-storage operators also pay more attention when drafting lease contracts to ensure compliance with fire safety regulations.

“Landlords can spell out the requirements for the mini-storage facility operators in observing fire safety regulations and the Buildings Ordinance,” Lau says. “The operators, in turn, should also spell out the responsibilities for their customers in observing such regulations. Those who fail to observe the regulations should be faced with liabilities stipulated under their leases and the possible termination of the leases. By ensuring this communication filters down to various stakeholders, it should raise their awareness of fire safety

and help ensure compliance on various levels.”

Sr Alnwick Chan Chi-hing, Executive Director and Head of Valuation and Professional Services at Knight Frank, and Council Member of HKIS’s General Practice Division, expects the industry to consolidate, as sizeable operators tend to offer better quality and safety standards. Volume is key to profitability in the business, Chan says, and larger operators are in a better position to move to a building with an automatic sprinkler system.

He suggests that the government considers interim licensing of the mini-storage industry, imposing minimum requirements for staff on site that are responsible for monitoring the facilities.

Chow takes this a step further, saying that industrial buildings should have a fire management plan, which includes maintenance, staff training, fire action plan and recommended actions. Different units in the building, for example, may need different fire safety hardware – both active protection systems and passive features of the building’s construction – and different requirements in managing fire load density and flammable goods. Both business and management staff should understand how to maintain evacuation routes and what to do when a fire occurs. They should also have a comprehensive understanding of how the building is regulated for fire safety and the possible fire risks.

Ho suggests that while the government reaches a policy decision on whether these facilities are allowed to operate in buildings without automatic fire sprinkler systems, building owners and managers should make themselves aware of their civil and legal responsibilities. They should also insure their properties, which will involve an audit of overall safety.

Meanwhile, Ho says, building surveyors can help to educate the public on generic design guidelines for mini-storage facilities, and the maintenance of hygiene and safety in industrial buildings. It is a good chance for surveyors and relevant professionals to step in and help building owners bring safety standards up to scratch.

The article is published courtesy of Classified Post.

「簡單將舊式工廈用於非工業用途，本身並不同於政府現有政策下的『活化』，實質是違法行為。」

迷你倉，大問題

近日牛頭角迷你倉發生嚴重火警，表明本港同類的獨立貯物設施長期缺乏監管。

May Chan Rhodes

6月21日，淘大工業村發生大火，火勢持續逾80小時才受到控制，成為本港二十年來燃燒時間最長的火警，亦令兩名消防員不幸殉職。

當時首先起火的是該棟舊工廈三樓的迷你倉及獨立貯物設施。亞洲迷你倉商會指，現時全港大約有500間迷你倉，超過10萬家庭使用。迷你倉的監管仍然是一大問題，因為本港目前並無規管迷你倉的特定法例，亦無規定該等貨倉的設立地點。

香港理工大學建築科學及消防工程講座教授、屋宇設備工程學系系主任周允基教授太平紳士表示，獨立貯物設施需要加強消防安全監管。

他指出，根據現行做法，消防處人員進行消防安全巡查時面臨種種困難，較難確定有關設施有否違反各項消防安全條例。一方面，租戶不一定必須向業主提供所儲存貨物的清單。另一方面，經營者可能會將單位分隔為多個通風不良的迷你倉，充分利用室內面積以賺取最大利潤，租戶一般會將貨物堆放至天花高度，以充分利用儲存空間。

上述各項因素使得迷你倉設施容易出現「通風控制燃燒」(ventilation-controlled fires)的情況，即現場空氣不足，導致易燃物料無法完全燃燒。其後當現場有氧氣進入，火勢便會迅速蔓延，溫度上升並釋放大量濃煙，情況難以控制。「閃燃」過後，高溫輻射所產生的潛熱通量可超過每平方米100千瓦(kW/m²)，此時密閉空間內直接暴露於空氣中的大部分易燃物料已接近自燃點。在滅火工作中，必須密切監察此類情況對消防員可能存在的危險。

更為糟糕的是，許多迷你倉的佈局雜亂無章，通道狹窄，縱橫交錯。一旦發生火警，特別當在濃煙之中難以找到走火出口，在場人士極難逃生。迷你倉內部錯綜複雜的結構亦增加了滅火救援的難度，消防員在迷宮一樣的走廊中很難確定火源。

由於本港缺乏法例監管迷你倉，獨立貯物設施分佈於不同的工業大廈內，消防安全系統狀況參差不齊。例如暫時，1973年之前建成的工業大廈（包括淘大工業村）毋須安裝自動灑水系統。

周教授表示：「幸好迷你倉人不多，不像商場或地鐵站，否則發生火警可能造成不少人命傷亡。」

富匯公司董事總經理、香港測量師學會上任會長、香港測量師學會建築政策小組主席何鉅業測量師太平紳士表示，獨立貯物設施存在安全隱患，其實背後有著更嚴重的問題——位於舊式工廈的多用途場地。他估計，大約500幢舊式工廈並未安裝新型消防設施，其中超過300座提供多種用途，例如設有舞蹈或瑜伽練習室、冒險遊戲中心（包括彈床及攀岩壁等固定設施），甚至餐廳。

令問題更為複雜的是，許多舊式工廈存在業權分散的亂象，樓宇管理及維修未能合乎標準。何鉅業表示：「這些場地有時就在迷你倉旁邊，吸引大量公眾人流出入。有關政府部門對其消防安全的監管亦不足夠。」

何鉅業指出，有關場地以活化舊工廈的名義如雨後春筍般興起，而「活化」的概念根本上是錯誤的。「舊式工廈需要進行翻新，以合乎最新標準。簡單將有關空間用於非工業用途，本身並不同於政府現有政策下的『活化』，實質是違法行為，違反建築條例及地契，需要執法處理。」

何鉅業表示，長遠而言，政府需要決定迷你倉的監管方式以及舊工業大廈的用途。與此同時，政府需要加強巡查有關設施，確保其遵守消防安全規例。

香港測量師學會會長、香港測量師學會土地政策小組主席、仲量聯行國際董事劉振江測量師表示，迷你倉確實有其正面作用，可以節省家居及工作場地空間，同時降低儲存成本。

他表示，政府可以考慮強制規定相關設施安裝自動灑水裝置，從而促使迷你倉遷往較新型的大廈，同時鼓勵舊式工廈進行結構更新並安裝自動灑水系統。

「未能遵守規例的人士應根據租約承擔責任，甚至面臨解約。」



業務人員及管理人員應了解如何保持疏散通道暢通以及發生火警時應如何處理。
(相片提供：Thinkstock)

雖然政府已宣布展開全港迷你倉大巡查，劉振江建議業主及迷你倉經營者在擬訂租約時亦需多加留意，確保合乎消防安全規例。

劉振江表示：「業主可以要求迷你倉經營者遵守消防安全規例以及建築物條例。反過來，經營者亦應訂明客戶遵守有關規例的責任。未能遵守規例的人士應根據租約承擔責任，甚至面臨解約。透過向不同持份者傳達有關訊息，應該能提高其消防安全意識並有助於確保在各個層面遵守法例。」

萊坊執行董事兼估價及地產拓展顧問部主管、香港測量師學會產業測量組理事會成員陳致聲測量師預期迷你倉行業將面臨整合，因為大型經營者通常提供更優質及安全的服務。陳致聲表示，業務量是企業盈利的關鍵，大型經營者更有能力遷往裝有自動灑水系統的大廈。

他建議政府考慮為迷你倉行業頒發臨時牌照，設定現場設施監管人員的最低人數。

周允基教授進一步指出，工廠大廈應制訂消防安全管理計劃，訂明大廈保養、人員培訓、火警行動方案以及建議措施。例如，大廈內的不同用途單位可能需要不同的消防安全設備，包括主動防護系統以及大廈結構本身的固有特點，對於火災負荷密度以及易燃物品的管理亦有不同要求。業務人員及管理人員應了解如何保持疏散通道暢通，以及發生火警時應如何處理。他們亦應全面了解適用於大廈的消防安全規例及將會面對的火災風險。

何鉅業指出，政府應制訂政策說明是否允許在未安裝自動灑水系統的大廈內經營有關設施，而大廈業主及管理者應留意自身的民事責任及法律責任。他們亦應為物業購買保險，包括進行全面安全審核。

與此同時，何鉅業表示，建築測量師可以幫助教育公眾迷你倉的一般設計指引，以及維持工廠大廈衛生安全的事項。測量師及相關專業人員可以藉此機會運用其專業知識，幫助業主達致安全標準。

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