Research Office
Legislative Council Secretariat

Information Note

# Mandatory design requirements for construction safety in the United Kingdom and Singapore

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## 1. Introduction

1.1 In Hong Kong, construction safety has been a recurring concern in the community, given the average outbreak of 3 308 construction accidents causing 18 deaths each year during 2014-2023. Local fatality rate in the construction sector was 17.8 per 100 000 workers in 2023, amongst the highest across advanced economies. Despite enhanced publicity campaign and increased penalty after the amendment of the Occupational Safety and Health ("OSH") Ordinance in April 2023, there was no obvious sign of improvement in 2024. As such, the labour unions and stakeholders advocate mandatory requirement for developers and contractors to incorporate Design for Safety ("DfS") in their construction plans and project management. In short, DfS refers to the process of identifying potential hazards and reducing safety risks through adequate design in the early stages of conceptual planning and subsequent safety management in actual construction. Studies show that some 60% of construction accidents can be traced back to early design and planning.[1] In fact, many advanced economies (e.g. Australia, South Korea, Singapore and many member states of the European Union ("EU")) have enacted laws to mandate application of DfS principles in construction projects. Yet DfS adoption remains voluntary for private works in Hong Kong right now, as it is for public work projects valued at HK$500 million and below.

1.2 At the request of Hon LAM Chun-sing, the Research Office has studied the mandatory requirements of DfS in Singapore and the United Kingdom ("UK") as they have enforced DfS regulations for almost 10 and 30 years respectively, giving rise to sound performance in construction safety. This ***Information Note*** begins with a brief review of recent global developments in DfS, followed by an overview of its implementation in Hong Kong. It will then switch to relevant policy measures of the UK and Singapore, along with a summary table on DfS regulations in the two selected places (**Appendix**).

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[1] Weinstein et al. (2005) and Hong Kong Housing Authority (2017).

## 2. Recent global developments

2.1 As discussed above, DfS identifies potential hazards in early conceptual and project planning phases.[2] Examples of accident prevention in construction design include **(a)** designing components that can be pre-fabricated off-site or on the ground to avoid assembling at and falling from heights; **(b)** designing the structure in a way to facilitate safe maintenance in the future (e.g. positioning air-conditioning units and lift plant at ground level, integrating window cleaning bays into the structural frame). Without DfS implementation, project designers tend to take safety factor lightly, shifting the primary responsibility for worker safety during construction to contractors and subcontractors on-site.[3]

2.2 ***By and large, DfS regulations are underpinned by a couple of similar principles***. They include: **(a)** designing building structures and selecting construction materials and methods with smaller risks; **(b)** identifying hazards early and allowing for elimination/reduction of such risks before they become real threats; **(c)** considering safety factors in all stages, from initial design through construction, operation, maintenance, and demolition; **(d)** defining roles and responsibilities of all stakeholders ranging from clients, designers, contractors to maintenance personnel; **(e)** documenting all relevant safety information such as identified risks and mitigation measures; and **(f)** providing adequate training and disseminating regular updates on safety practices.[4]

2.3 EU is the global pioneer in implementation of DfS regulations, adopting the Framework Directive in 1992 to mandate application of DfS principles on construction sites by all parties including designers.[5] All 27 member states (including countries that joined after approval of the Directive), along with the UK before Brexit, were required to transpose the Framework Directive into their national laws. Some developed economies (e.g. Australia and New Zealand) then followed suit, laying down safety responsibilities for designers and other stakeholders in their own occupational safety laws.[6] More specifically in East Asia, Singapore and South Korea enacted similar laws on DfS during 2015-2016.[7] In the Mainland,

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2 Construction Industry Council (2022a). Terminology may be different across places and time for the same concept (e.g. Designing for Construction Safety and Health, Construction Design Management, and Prevention through Design).

3 Palumbo (2018).

4 Workplace Safety and Health Council (2020), European Federation of Engineering Consultancy Associations (2006), Australian Safety and Compensation Council (2006) and NZ Transport Agency (undated).

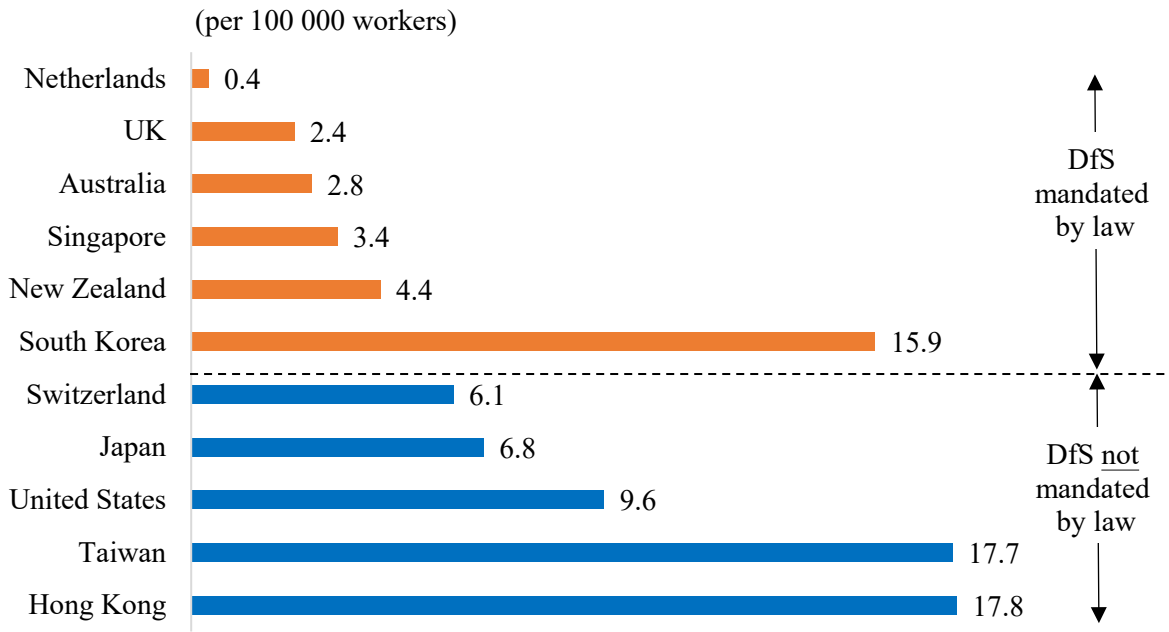
5 Framework Directive 92/57/EEC.

6 NSW Government (2019), Australasian Legal Information Institute (undated), WorkSafe New Zealand (2018) and Guo et al. (2021).

7 Samsung C&T (2022).

although there is no such DfS law, the *Safe Production Law* (安全生產法) requires safety facilities for major construction projects to be in place.[8] Based on the scattered statistics available in the public domain, it seems that the construction fatality rates per 100 000 workers were generally lower in those places with DfS regulations in 2023, compared with those without (**Figure 1**).

**Figure 1 – Construction fatality rate in 11 selected places in 2023(1)**




Note: (1) Figures for the Netherlands and Switzerland are based on 2022 data. Fatality rate in the Mainland is not published.

Sources: Safe Work Australia (2024), Ministry of Employment and Labor (South Korea) (2024), European Union (2025), HazardCo (2023), Ministry of Manpower (Singapore) (2024d), Health and Safety Executive (UK) (2024), International Labour Organization (2024), 勞動部職業安全衛生署(2024), and US Bureau of Labor Statistics (2024).

[8] 中華人民共和國應急管理部(2021). The rule is commonly known as "三同時" in Chinese.

2.4 ***Benefits of DfS implementation are supported by empirical evidence.*** For instance, study findings showed that those EU member states which had DfS regulations implemented in early years generally witnessed lower construction accident rates than those that implemented them later. Moreover, 11 out of 15 countries covered in the same study saw a fall in their accident rate after DfS implementation, with reduction rates ranging from 3.4% to 66%.[9] Contractors welcomed lower accident rates in their projects, leading to financial benefits (e.g. lower workers' compensation payments and less delays).[10] ***However, there are also challenges and barriers in DfS implementation***, mainly because architects as designers may not have enough knowledge and working experience on safety requirements on construction sites. Some stakeholders argued that DfS would lead to additional cost and time, but these claims were dismissed by others.[11] Moreover, some practitioners reflected that DfS requirements were just a checklist and safety measures were not effectively embedded in the design process.[12] In addition, key stakeholders (e.g. developers or clients) may not accord high priority to safety in project development. Their lacklustre attitude could compromise the effectiveness of safety management throughout the construction cycle.[13]

## 3. Recent developments in Hong Kong

3.1 Construction is the most hazardous workplace in Hong Kong, primarily because of its risky job nature and site environment. During 2014-2023, there were an average of 32.1 construction accidents per 1 000 workers annually, more than twice the rate of 15.8 across all industries. Excluding other deaths (e.g. natural deaths) in the workplace, there were 20 deaths from industrial accidents in the construction sector in 2023, accounting for 83% of such deaths (24 cases) across all industries. In 2023, construction fatality rate was 17.8 per 100 000 workers, the highest amongst the 11 selected places included in comparison (**Figures 1-2**).[14] More specifically on occupational injuries in construction, "slips or falls on same level" was the top cause and took up 28% of overall caseload. Of these cases, "falling from height" took nine lives in 2023 and accounted for 20% of overall fatal injuries in construction (**Figure 3**).

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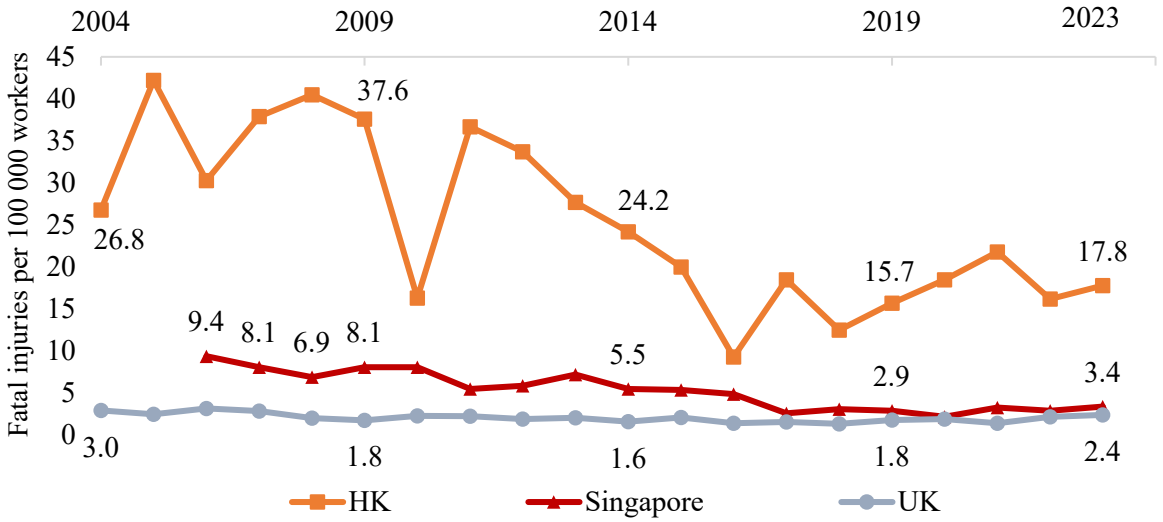
9 Aires et al. (2010).
10 Farooqui et al. (2008).
11 Lim (2022).
12 Guo et al. (2021).
13 Poghosyan et al. (2018).
14 Official statistics for 2024 are not yet available. According to the Association for the Rights of Industrial Accident Victims, there were 12 cases of construction fatal accidents in 2024. See 工業傷亡權益會 (2024).

## Figure 2 – Construction fatality rates in Hong Kong, Singapore and the UK[(1)]




Note: (1) Singapore's fatality rate for 2005 or earlier is not available.
Sources: Labour Department (2024), Ministry of Manpower (2024d), and Health and Safety Executive (2024).

## Figure 3 – Occupational injuries in local construction industry in 2023

| | Major type | No. of injuries | % share | Fatal cases | % share |
|---|---|---|---|---|---|
| 1. | Slip or fall on same level | 923 | 28% | 1 | 2% |
| 2. | Struck against stationary or by moving objects | 732 | 22% | 1 | 2% |
| 3. | Injured whilst lifting or carrying | 598 | 18% | 0 | 0% |
| 4. | Falling from height | 240 | 7% | 9 | 20% |
| 5. | Trapped between objects or by overturning objects | 111 | 3% | 3 | 7% |
| 6. | Others | 696 | 21% | 31[(2)] | 69% |
| | **Total** | **3 300** | **100%** | **45[(2)]** | **100%** |

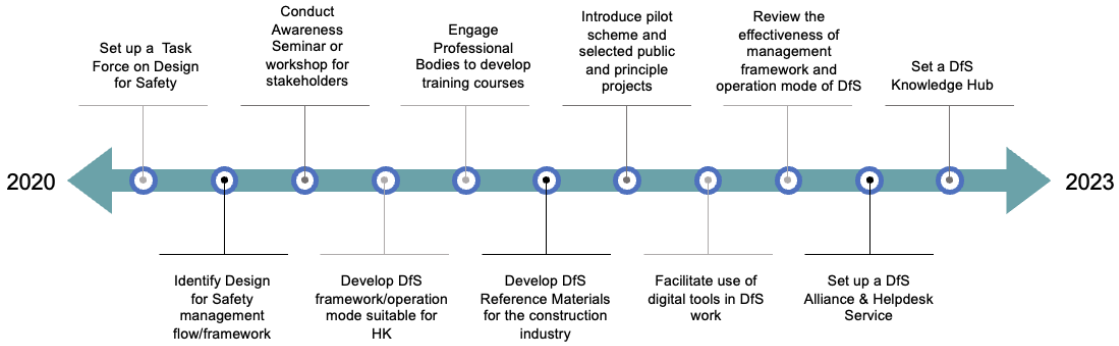
Notes: (1) Workplace injuries resulting in death or incapacity for work for over three days reported under the Employees' Compensation Ordinance.
(2) Including natural deaths and other deaths due to non-industrial accidents.

3.2 Construction safety in Hong Kong is now mainly regulated by three laws, namely **(a)** the OSH Ordinance discussed above and its subsidiary regulations; **(b)** the Factories and Industrial Undertakings Ordinance and its subsidiary regulations; and **(c)** the Building Ordinance and its subsidiary regulations. In response to strong public concerns over frequent occurrence of fatal construction accidents and to heighten the deterrent effect, the maximum penalties for serious offences under the above-listed laws (a) and (b) were raised to a fine of HK$10 million and imprisonment for two years with effect from April 2023. However, the average amount of fines stood at a low level of only

HK$9,100 per case in 2024, precipitating doubts over the deterrent effect of the legislative amendments.[15]

3.3 More specifically on DfS, there is currently no legal framework in Hong Kong. As part of government policies, DfS has been required for larger **public works projects** with contract value above a threshold since 2006, and this threshold is set at HK$500 million at present.[16] Based on the *Guidance Notes on Design for Safety* ("Guidance Notes") and *Worked Examples of design for Safety* in 2016, the safety responsibilities of four key duty holders (i.e. Client, Designer, Contractor and Maintenance Supervisor) are clearly laid down. Tenderers are required to elaborate on risk management in their technical proposals for tender assessment in accordance with the Guidance Notes.[17] Yet non-compliance with the Guidance Notes is not an offence. Turning to **private sector projects**, DfS is entirely voluntary. In May 2020, the Construction Industry Council ("CIC") set up a Task Force on Design for Safety, aiming to roll out a roadmap for promoting DfS implementation (**Figure 4**).[18] CIC then published the *Reference Materials on the Design for Safety Management System for the Hong Kong Construction Industry* in November 2022 to supplement the Government's Guidance Notes, with more detailed examples and offered training courses for practitioners.[19] In September 2024, CIC launched a pilot scheme to offer DfS advice to project developers in the private sector.[20]

**Figure 4 – Roadmap for DfS put forth by Task Force on Design for Safety**




Source: Construction Industry Council (2022a).

15 Data.gov.hk (2025). The figure includes offences in all industries.

16 The local DfS practices were modelled on the UK's Safety in Design approach and Construction Design and Management 1994. See Construction Industry Council (2022a) and Labour Department (2014).

17 Labour and Welfare Bureau (2024).

18 The Labour Department is also a member of the Task Force.

19 Construction Industry Council (2022a).

20 The pilot runs with three participating projects (i.e. construction projects of Civil Engineering and Development Department, HK Electric and Airport Authority Hong Kong respectively) were kicked off in September 2024. See Legislative Council Secretariat (2024) and Construction Industry Council (2024).

3.4 Notwithstanding the above initiatives, construction accidents remain commonplace. In January 2025 alone, there were three serious accidents at construction sites claiming two lives and prompting the Labour Department to undertake citywide inspection of large-scale scaffolding projects.[21] The incidents have reignited calls from society for the Government to improve construction safety, including implementing DfS through legislation.[22] In fact, mandatory requirement of DfS through legislation has been repeatedly discussed in the Legislative Council in June 2024 and January 2025, but the Government has been lukewarm about the suggestion.[23] The Government responded that "there was no consensus in the construction industry", citing concerns that "legislation would bring constraints to architectural design and hinder the development of the industry".[24] To improve construction safety, it would focus on application of smart technology, strengthening inspection, and awareness campaigns instead.[25]

## 4. Recent policy developments in the United Kingdom

4.1 According to the International Labour Organization, the occupational fatality rates in the UK were one of the lowest among 78 economies globally.[26] In the construction industry, fatality rate has consistently stayed at a low level of below 2.5 per 100 000 workers in the past decade (**Figures 1-2**). More specifically on DfS, the UK enacted the Construction (Design and Management) Regulations ("CDM Regulations") in December 1994 to comply with the aforementioned EU legislation. These regulations were then amended in February 2007 and January 2015 to enhance various provisions (e.g. refinement of the list of duty holders and textual amendment to make them more reader-friendly to small businesses). The Health and Safety Executive ("HSE"), the UK's regulator for workplace health and safety, oversees the enforcement of CDM Regulations.

4.2 The CDM Regulations 2015 is the prevailing law governing DfS in the UK. Its key features are briefly summarized below:[27]

(a) **All-embracing scope**: The regulations mandatorily apply to all construction works in the UK (including new buildings,

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21 Chief Executive (2025).
22 文匯報(2023), 香港01(2023) and 獨媒報導(2023).
23 Legislative Council (2024, 2025).
24 GovHK (2024).
25 香港特別行政區政府(2025).
26 The statistics cover all sectors (including construction). See International Labour Organization (2024).
27 Health and Safety Executive (2015).

demolitions, refurbishments, extensions, conversions, repairs, and maintenance activities) regardless of their size, and are applicable to commercial clients and domestic clients alike;

(b) **Division of legal responsibilities on construction safety**: Six major types of duty holders and their safety responsibilities are set out in the law (**Figure 5**). They include (i) ***client***, (ii) ***designer*** (e.g. architects, engineers and surveyors) and (iii) ***contractor*** (i.e. an individual or business carrying out construction work). While the designer has a legal duty to eliminate/reduce foreseeable risks arising from the designs, a contractor is legally obliged to manage construction work to eliminate/reduce risks, among other duties.

For projects involving multiple contractors, the client should appoint a ***principal designer*** to control health and safety issues during the pre-construction phase on the one hand, and a ***principal contractor*** to coordinate safety management during construction phase on the other. For ***workers***, they also have legal duties to cooperate with other duty holders and report any hazards. All duty holders are legally required to provide relevant information to other parties;

**Figure 5 – Legal obligations of duty holders under CDM Regulations 2015**

| Duty Holder | Examples of key responsibilities |
|---|---|
| Client | ✓ Appointing competent duty holders and allocating sufficient resources and time for CDM duties<br>✓ Ensure welfare facilities (e.g. toilets, places for eating) are provided |
| Principal Designer | ✓ Plan, manage, and monitor the pre-construction phase to minimize risks<br>✓ Ensure designers comply with their CDM duties, and liaise with the principal contractor regarding the construction phase<br>✓ Prepare and maintain the health and safety file |
| Principal Contractor | ✓ Plan, manage, monitor, and coordinate the construction phase of the project<br>✓ Prepare and maintain the construction phase plan |
| Designer | ✓ Eliminate, reduce or control foreseeable risks during construction and maintenance that may arise from their designs |
| Contractor | ✓ Plan, manage and monitor construction work under their control to eliminate/reduce risks |
| Workers | ✓ Report any unsafe conditions or practices<br>✓ Cooperate with other parties in complying with health and safety requirements |

Source: Health and Safety Executive (undated-d).

(c) **Key safety deliverables**: Under CDM Regulations 2015, the principal designer (or the client, if a principal designer is not appointed) is required to prepare and maintain a ***health and safety file***, which is a repository of significant information on health and safety risks of the project (e.g. hazardous materials, key information about building structure). Meanwhile, the principal contractor (or the contractor, if a principal contractor is not appointed) is required to draw up the ***construction phase plan*** before setting up a construction site, laying down the health and safety arrangements and site rules. They are obliged to review and update both documents throughout the project; and

(d) **Maximum penalty of unlimited fine**: For breach of CDM Regulations 2015, the maximum penalty is unlimited fine and/or two years' imprisonment.[28] Given that health and safety falls under criminal law (i.e. superseding requirements under civil and contract law), duty holders would not be able to transfer their DfS duties to a subcontractor and hence evade liabilities through contract clauses.

4.3 ***The UK government has launched a couple of measures to help SMEs meet the DfS requirements***. They include **(a)** launching a free application for automatic production of a construction phase plan with indication of potential risks; **(b)** offering government-sponsored training courses; and **(c)** publishing suites of CDM industry guidance on the legal responsibilities of duty holders.[29]

4.4 On ***enforcement of CDM Regulations 2015***, there were over 4 000 enforcement notices on violations of various clauses during 2020-2024, after safety inspections.[30] For cases taken to the court during 2022-2024, a total of 57 convictions were made, with fines ranging from £1,000 (HK$9,830) to £900,000 (HK$8.85 million). More specifically for the case involving a £900,000 fine, the principal contractor was found guilty of failing to identify pre-existing electric cables in the pre-construction stage, causing injury of a worker who accidentally struck an underground cable.[31] In another case where a slate fell off a roof at a construction site hitting a passer-by, the principal designer was convicted of failure in the planning/design stage to properly assess the risks and to adequately consult other duty holders, resulting in the lack of preventive measures around the site.[32]

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[28] Health and Safety Executive (undated-b).

[29] The Construction Industry Training Board is a public body sponsored by the Department for Education.

[30] Health and Safety Executive (undated-c).

[31] Health and Safety Executive (undated-a) and Construction Enquirer (2022).

[32] Project Safety Journal (2024).

4.5 On **policy effectiveness**, based on a policy evaluation survey conducted in 2019, most stakeholders agreed that the DfS regulations had positive impacts on workers' health and safety.[33] Benefits included (a) increased awareness of health and safety within the company; (b) more formalized health and safety processes; (c) reduced incident occurrence; and (d) spending less time on health and safety issues. The vast majority of respondents believed that the benefits "could not be achieved with a system that involved less regulation". However, the survey also revealed that smaller businesses had low awareness of their obligations under DfS because they rarely consulted the relevant regulation and guidance.

## 5. Recent policy developments in Singapore

5.1 In the wake of a major incident causing four deaths during the construction of the Mass Rapid Transit in April 2004, Singapore made considerable effort to step up construction safety. In March 2005, the Singaporean government launched the 10-year Workplace Safety and Health Strategy 2015 ("WSH 2015"), followed by regular updates and the most updated WSH 2028 was released in April 2019. The policy objective is to reduce the workplace fatal injury rate by 30% within a decade to below 1.0 per 100 000 workers by 2028, making Singapore a renowned country with the best occupational safety practices. While the Ministry of Manpower is the primary enforcement authority of the workplace safety and health legislation in Singapore, the Building and Construction Authority plays a specific supporting role in the construction sector (e.g. performing safety inspections).

5.2 In January 2006, the Workplace Safety and Health Act ("WSH Act") was enacted to enhance workplace safety in all sectors, including construction.[34] With regard to the development of DfS framework, it began with voluntary guidelines launched in November 2008, but the initial approach of education, training and encouragement turned out to be not so effective. In May 2014, the Singaporean government decided to make DfS requirement mandatory and this was supported by the construction industry during subsequent consultations. After the legislative amendments of the WSH Act in July 2015, the Workplace Safety and Health (Design for Safety) Regulations ("Regulations") came into effect in August 2016.

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[33] The surveys consulted a wide range of stakeholders like the self-employed, SMEs, domestic and small commercial clients, and inspectors. See Legislation.gov.uk (2019).

[34] The risks in construction is the highest, followed by manufacturing, and transportation & storage.

5.3 The key features of DfS requirement under the Regulations in Singapore are briefly summarized below:

(a) **Wide coverage of projects**: The Regulations apply to all projects with contract value of at least S$10 million (HK$57.6 million) on the one hand, and any work falling under the definition of "development" under the Planning Act (e.g. additions, alterations and demolition) regardless of contract value on the other. Yet domestic projects (e.g. building or rebuilding houses) for personal dwelling not intended for use as a business are not covered in the Regulations;

(b) **Division of legal responsibilities on construction safety**: Five major types of duty holders and their safety responsibilities are set out in the law (**Figure 6**). They are (i) ***developers*** of a construction project, (ii) ***designers*** (e.g. engineers and architects) preparing a design plan of a structure, (iii) ***contractors*** (including main and subcontractors) carrying out any construction, maintenance and demolition work, and (iv) ***building owners***.

Similar to the UK's regime, a designer has a duty to identify the foreseeable design risks, and a contractor is required to ensure safety protocols in place during construction. There is an additional requirement in Singapore that both designers and contractors need to conduct regular DfS review meetings to identify design risks and consider mitigation measures.

Moreover, a Singaporean developer may assign a ***DfS Professional*** and delegate two main duties to him/her, namely (i) to convene DfS review meetings and (ii) to maintain risk records (i.e. DfS Register). A DfS Professional can either be a developer's own employee or an external consultant, but must be a practicing construction professional (i.e. architect, engineer, surveyor, project manager) having attained required DfS training courses;

(c) **DfS review meetings and DfS Register**: Under the Regulations, developers need to hold DfS review meetings with all relevant stakeholders at key stages of the project (e.g. concept design, pre-construction). [35] A DfS Register must be created and maintained to identify risks and mitigate risks throughout the project lifecycle. The Register serves as an evidence of the

[35] The WSH Council provided guidelines on steps and assessment tools for DfS review meetings. See Workplace Safety and Health Council (2016).

completion of DfS review process and helps pass vital information to persons affected by the project; and

(d) **Penalty**: Violations of the Regulations (e.g. breach of duties of designer, failure to convene DfS review meetings, or failure to keep DfS up-to-date) are subject to a maximum fine of S$50,000 (HK$288,000) and/or maximum two-year imprisonment. Companies may also be given demerit points for breaching the WSH Act and its relevant subsidiary legislation.[36]

However, there has been no convictions specific to the Regulations during 2020-2024. By contrast, there was an annual average of 35 convictions under the broader WSH Act and its other subsidiary regulations, so it was not clear that any wrongdoing in DfS had played a part in these accidents.[37]

## Figure 6 – Obligations of duty holders under the Regulations in Singapore

| Duty Holder | Examples of key responsibilities |
|---|---|
| Developers | ✓ Eliminate/reduce foreseeable design risks<br>✓ Ensure that all Designers, Contractors and DfS Professionals are competent<br>✓ Allocate sufficient time and resources for all parties to perform DfS duties<br>✓ Convene DfS review meetings, and maintain the DfS Register |
| DfS Professionals | ✓ Organize and facilitate DfS review meetings<br>✓ Keep an updated DfS Register<br>✓ Provide updated information on identified risks and their mitigations to the developer |
| Designers | ✓ Identify and eliminate/reduce foreseeable risks in their design plans<br>✓ Provide all relevant information regarding design, construction, and maintenance to stakeholders<br>✓ Participate in DfS review meetings and contribute to the DfS Register |
| Contractors | ✓ Inform the developer or main contractor of any foreseeable risks<br>✓ Ensure that all personnel (including subcontractors) are competent to perform their duties<br>✓ Ensure safety protocols are followed during the construction phase<br>✓ Participate in DfS review meetings |
| Owners | ✓ Keep a copy of the DfS Register for inspection<br>✓ Communicate all foreseeable risks to persons carrying out maintenance and future works<br>✓ Handover the DfS Register to future owners |

Source: Singapore Statutes Online (2016).

[36] The number of demerit points awarded depends on the severity of the breaches. An accumulation of a minimum of 25 demerit points will immediately trigger ban from hiring foreign workers. See Ministry of Manpower (2024b).

[37] Ministry of Manpower (2021, 2022, 2023, 2024c, 2025a).

5.4 On **policy effectiveness**, construction fatality rates in Singapore has declined noticeably over the past decade, but it is difficult to quantify the exact contribution of DfS regulations as other workplace safety policies (e.g. use of technology and cultivation of prevention culture) were also implemented in Singapore (**Figure 2 above**). Based on surveys conducted in 2016, the majority of respondents agreed that DfS was important, but their commitment to DfS was mixed due to the knowledge gap.[38] In response, the Singaporean government has worked with professional bodies in recent years to make DfS as one of the qualification requirements for architects and engineers.[39] Moreover, subsidized DfS training courses and free consultancy services were offered to SMEs.[40]

5.5 Based on a more recent study report published in 2022, there were still challenges faced by practitioners in DfS implementation. They included: (a) the existing DfS regulations are largely based on principles without a clear set of compliance criteria, leading to implementation uncertainties; and (b) developers and owners sometimes were reluctant to allocate resources for DfS.[41]

## 6. Observations

6.1 In **Hong Kong**, in spite of enhanced publicity campaign and increased penalty after the amendment of the OSH Ordinance in April 2023, construction fatality rate hit 17.8 per 100 000 workers in 2023, amongst the highest in the advanced economies. There is advocacy in society for mandating DfS requirements in both construction plans and project management to improve construction safety. Yet the Government has reiterated that it preferred a voluntary approach due to a lack of consensus in the construction industry.

6.2 In the **UK**, the implementation of DfS regulatory framework for almost 30 years have contributed to a consistently low construction fatality rate. Key features include mandatory application to all construction work regardless of size, explicit duty holder responsibilities, and significant penalties for non-compliance. Active enforcement is evidenced by over 4 000 enforcement notices issued during 2020-2024 and 57 court convictions during 2022-2024, resulting in substantial fines up to £900,000 (HK$8.85 million) for serious breaches. Supporting measures like free digital tools and sponsored training have helped address compliance challenges especially for smaller businesses.

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38 Toh et al. (2016) and Hui (2020).

39 Singapore Institute of Architects (2024) and The Institution of Engineers, Singapore (2025).

40 Ministry of Manpower (2024e) and Workplace Safety and Health Council (2025).

41 Asmone et al. (2022).

The positive outcomes reported in stakeholder surveys, particularly in safety awareness and incident reduction, suggest that robust regulation, coupled with practical support mechanisms, can effectively improve safety planning.

6.3 In **Singapore**, DfS was mandated by law in 2015 as part of a nationwide strategy to enhance workplace safety and health. The shift from voluntary guidelines to mandatory requirements came after recognizing the limitations of purely educational approaches. Key features include coverage of all projects above S$10 million (HK$57.6 million), clear designation of five types of duty holders, and the unique requirement of regular DfS review meetings. A distinctive element is the role of DfS Professionals who must have construction professional qualifications and specific training. While Singapore has achieved declines in construction fatality rates, some stakeholders reported challenges in DfS implementation such as uncertainties due to principle-based regulations and developers' reluctance to allocate resources. Notably, while penalties are specified in the law, there have been no convictions for breaches of DfS duties in 2020-2024.

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## Appendix

# Key features of DfS implementation in Hong Kong, the UK and Singapore

| | | Hong Kong (Guidelines) | Singapore (Mandatory regulations) | United Kingdom (Mandatory regulations) |
|---|---|---|---|---|
| **A. Background** | | | | |
| **1. Construction industry fatality per 100 000 workers (2023)** | | • 17.8 | • 3.4 | • 2.4 |
| **2. Share of construction industry in total workforce (2023)** | | • 9.5% | • 13.2% | • 6.1% |
| **B. DfS implementation** | | | | |
| **1. Year of adoption** | | • 2006 | • 2015 | • 1995 |
| **2. Form of implementation** | | • Voluntary | • Mandatory | • Mandatory |
| **3. Scope of application** | Minimum contract value | • HK$500 million | • S$10 million (HK$57.6 million) | • - |
| | Public/private works | • Public | • Both(1) | • Both |
| **4. Key duty holders** | Client/Developer | ✓ | ✓ | ✓ |
| | Designer | ✓ | ✓ | ✓(2) |
| | Contractor | ✓ | ✓ | ✓(3) |
| | Owner | × | ✓ | × |
| | DfS Professional | × | ✓ | × |
| | Maintenance Supervisor | ✓ | × | × |
| | Worker | × | × | ✓ |
| **5. Penalties for offences** | Fine | × | ✓(4) | ✓(5) |
| | Imprisonment | × | ✓ | ✓ |

Notes: (1) Works defined as "development" under the Planning Act.
(2) In case two or more designers are engaged, a principal designer has to be appointed.
(3) In case two or more contractors are engaged, a principal contractor has to be appointed.
(4) Up to S$50,000 million (HK$288,000).
(5) No upper limit.

Sources: Census and Statistics Department (2024), Ministry of Manpower (2025b) and Office for National Statistics (2024).

## References^

Global


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