



CONSTRUCTION
INDUSTRY COUNCIL
建造業議會

Recommended Safety Precautionary Measures and Work Procedures for Working in Lift Shaft

升降機槽工程的建議安全預防措施及施工程序

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Site Safety of Working in Lift Shaft
Committee on Construction Site Safety
Construction Industry Council (CIC)

演講者: 建造業議會
工地安全委員會
升降機槽工作的工地安全專責小組主席
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Agenda

議程

(A) Safety problems on lift shaft works

升降機槽工程之安全問題

(B) Extent and scope of lift shaft works

升降機槽工程之涵蓋範圍

(C) Key points of the CIC newly published Guidelines on Safety of Lift Shaft Works (Volume 1):

建造業議會新發佈之升降機槽工程安全指引 (第1卷)的要點：

- Planning of lift shaft works and the provision of protective measures
升降機槽工程之規劃及保護措施
- Risk Assessment
風險評估
- Implementation of a Permit-to-Work System
工作許可證制度之實施

(D) Summary 總結

(E) Enquiries 查詢



(A) Safety problems on lift shaft works

升降機槽工程之安全問題

升降機變斷頭台 修理工成無頭鬼

香港29日發生奪命升降機意外，一名升降機維修工內的橫梁上，指揮升降機內同事按鈕控制升降機升降，以作是否正常時，懷疑遭重達10噸的升降機平衡鉗擊中，首異處，有如慘遭斬頭行刑，死狀恐怖。

據悉死者被“斬頭”后，首級跌在升降機槽的橫梁上機槽底，當時大廈看更聽到異聲，通知其他修升降機工人察看，見到橫梁上竟有一顆人頭，當場被嚇暈，后被送院。

勞工處工業安全主任鄧繼禹指出，死去的工人身處升降機在身，要靠高呼來和其他工備給員工，當局會深入調查。意外現場為中區士丹利街，名升降機維修工人為一號升降



金鐘海富中心清潔工人失足墜升降機槽

2009-06-27

金鐘海富中心發生工業意外，一名工人清潔升降機時失足跌入升降機槽，消防員到場拉開升降機門將傷者由升降機槽內救出，他要帶上頸箍，送院時仍然清醒。

環貿廣場工業意外死者增至六人

2009-09-13 (20:23)

頭條日報 環球貿易廣場下午發生升降機槽嚴重工業意外，工人於七時許被救出，證實不治，令死亡

抄錶員入錯門墜軌槽死

【本報訊】東涌發生離奇意外，一名中電抄錶員昨傍晚到一個屋苑抄錶時，疑誤將升降機救生門當電錶房門，甫開門即踏入「房間」，從卅二樓直墜軌槽底，當場全身骨折慘死，警方與勞工處正調查死者為何會出錯。

時許發生，六名清潔工人清理泥頭期間，從三十樓直墜至十樓，全部重傷被困。出最後一名被困工人，可惜全部均傷重死

(A) Safety problems on lift shaft works

升降機槽工程之安全問題

- during construction, lift installation, operation and maintenance stages, many activities take place inside or near lift shafts
在施工、升降機安裝及操作和保養階段，均有大量工作於機槽內部或附近進行
- accidents in lift shaft can be catastrophic causing serious injuries or even loss of lives and damage to properties
涉及升降機槽的意外可以引致災難性的後果，導致受傷、生命及財產的重大損失
- urgently need to enhance the measures for site safety of working in lift shaft
有必要加強在升降機槽工作的工地安全措施



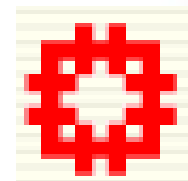
Formation of the Task Force on Site Safety of Working in Lift Shaft

專責小組之成立

- the Task Force was formed under the Committee on Construction Site Safety of the CIC
建造業議會（議會）轄下的工地安全委員會特別成立了專責小組
- members of the Task Force include professionals and safety specialists
小組成員包括建造業的專業人士及安全專家
- **aim at formulating measures to enhance site safety of working in lift shaft**
目標為制訂良好守則，以提升在升降機槽工作的工地安全



CONSTRUCTION
INDUSTRY COUNCIL
建造業議會



The Hong Kong Association of
Property Management Companies
香港物業管理公司協會



香港機電工程師聯會
The Hong Kong Federation of electrical
and Mechanical Contractors Limited



(B) Extent and scope of lift shaft works

升降機槽工程之涵蓋範圍

After thoroughly reviewed the work cycle involving the installation of lifts within a construction project, the whole process can generally be divided into three stages:

經全面檢討升降機安裝的工作周期後，歸納為以下三個工程階段：

- **Stage 1** – During Construction Stage and Before Handing Over to Lift Installation Contractor

第一階段 - 施工期間直至移交予升降機安裝承建商前；



(B) Extent and scope of lift shaft works

升降機槽工程之涵蓋範圍

- **Stage 2** – During Lift Installation Stage Until Issue of Occupation Permit (OP) and Handing Over to Developer; and

第二階段 - 升降機安裝期間直至獲發佔用許可證及交予發展商；及



(B) Extent and scope of lift shaft works

升降機槽工程之涵蓋範圍

- **Stage 3** – Operation and Maintenance Throughout the whole Occupation Stage

第三階段 - 整個佔用期內的操作及保養階段



Aims of the Task Force

專責小組之目標

- at each stage of works, the lift shafts and the lift installation might be taken over and managed by different parties

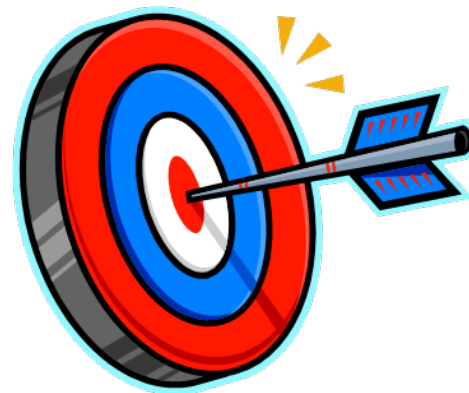
在每一工程階段，升降機槽及升降機安裝均會由有關各方負責及管理

- according to the nature and scope of works, various types of safety hazards might be associated with the works to be carried out in the lift shafts

根據工程的性質及範圍，會有不同的安全危害

- **the Task Force aims to develop designated sets of safety precautionary measures for each stage of lift shaft works so as to protect the lives of workers, lift operators, users and associated properties, and publish them as guidelines**

專責小組就每階段的升降機槽工程，制訂特定的安全預防措施，以保障工人、升降機操作員及使用者的生命及財產



Aims of the Task Force

專責小組之目標

- the Task Force targets to formulate three volumes of publications covering each of the three stages of lift shaft works:

專責小組的目標是制定3卷刊物，以涵蓋下列各有關升降機槽工程的不同階段：

- Volume 1 – During Construction Stage and Before Handing Over to Lift Installation Contractor

第1卷 - 施工期間直至移交予升降機安裝承建商前

- Volume 2 – During Lift Installation Stage Until Issue of Occupation Permit (OP) and Handing Over to Developer

第2卷 - 升降機安裝期間直至獲發佔用許可證及交予發展商

- Volume 3 – Throughout Occupation Stage

第3卷 - 整個佔用期間



Guidelines on Safety of Lift Shaft Works (Volume 1)

Summary on key points

升降機槽工程安全指引 (第1卷)
要點簡介

Guidelines on Safety of Lift Shaft Works (Volume 1)

升降機槽工程安全指引 (第1卷)

- the Guidelines for Stage 1 was published in July 2010 for reference by the industry
第一階段的指引已於2010年7月發表，供業界參考
- the Guidelines set out the good practices recommended by the CIC
當中載列了議會推薦的良好守則
- for enhancing work safety of site personnel working near or inside a lift shaft

旨在提升在升降機槽附近或內部工作的人員之作業安全



Guidelines on Safety of Lift Shaft Works (Volume 1)

升降機槽工程安全指引 (第1卷)

- most of the buildings and such construction projects involve lift installation

大多數建築物及相關建造工程均涉及升降機安裝

- the construction of lift shafts and the subsequent lift installation processes necessitate the attention of all project stakeholders to ensure site safety

在建造升降機槽及隨後的安裝升降機的過程中，所有項目持份者均須確保工地安全

- the Guidelines focuses on the precautionary measures recommended for enhancing the safety of lift shaft works

指引將重點講述所建議採取的預防措施，以提升在升降機槽工程進行時的作業安全



Guidelines on Safety of Lift Shaft Works (Volume 1)

升降機槽工程安全指引 (第1卷)

- it is important to note that compliance with this publication does not of itself confer immunity from legal obligations
務須注意，遵守指引並不表示可以免於承擔法律責任
- must observe and comply with statutory provisions, relevant codes of practice and all other government departments' requirements so as to discharge their legal and other pertinent duties in respect of construction works
仍須遵守法律條文、作業守則及政府部門各規定，履行關於升降機槽建造工程和使用法律及其他相關責任
- the Contractor should critically examine the applicability and suitability of the provisions in the Guidelines, taking into account the actual site conditions and the specific safety hazards of the project
承建商須顧及項目的實際地盤狀況和特定危害，仔細檢查指引所載規定是否適用



Guidelines on Safety of Lift Shaft Works (Volume 1)

升降機槽工程安全指引 (第1卷)

List of Relevant Existing Legislation(s)/ Regulation (s) and Code(s) of Practice

相關現行法例／規例及實務／作業守則

1. Construction Sites (Safety) Regulations, Chapter 591
《建築地盤（安全）規例》（第591章）
2. The Lifts and Escalators (Safety) Ordinance, Chapter 327
《升降機及自動梯（安全）條例》（第327章）
3. Code of Practice on the Design and Construction of Lifts and Escalators, Electrical & Mechanical Services Department
機電工程署《升降機及自動梯設計及建造實務守則》



Guidelines on Safety of Lift Shaft Works (Volume 1)

升降機槽工程安全指引 (第1卷)

4. PNAP ADV-10 (formerly PNAP 181) and PNRC 29
PNAP ADV-10 (舊編號：PNAP 181) 及PNRC 29
5. Code of Practice on Building Works for Lifts and Escalators,
Buildings Department
屋宇署《升降機及自動梯建築工程作業守則》
6. Code of Practice for Lift Works and Escalator Works,
Electrical & Mechanical Services Department
機電工程署《升降機及自動梯工程實務守則》
7. Code of Practice for Safety at Work (Lift and Escalator),
Labour Department
勞工處《工作安全守則 (升降機及自動梯)》



Lift Shaft Works

升降機槽工程

“Lift shaft works” should include but not be limited to:

升降機槽工程包括但不限於：

- formwork erection, concreting and formwork stripping of lift shaft walls
升降機槽牆壁的模板搭建、澆注混凝土及脫模
- making-good of lift shaft walls
升降機槽牆壁的修復
- erection, maintenance and dismantling of scaffolds
棚架的搭建、保養和拆除
- erection, alteration, maintenance and dismantling of lift shaft platforms
升降機槽平台的搭建、改動、保養和拆除

Lift Shaft Works

升降機槽工程

- materials and equipment lifting inside lift shafts
升降機槽內物料和設備的升降
- refuse removal/water pumping at lift pit
升降機井底坑的垃圾清除／抽走積水
- construction of concrete plinths at lift pit; and
升降機井底坑混凝土底座的建造；及
- miscellaneous builder works such as erection of cat ladder or metal stage platform
雜項建造工程，如搭建豎梯或金屬架平台

Safe System of Work on Lift Shaft Works

升降機槽工程安全工作制度

To ensure the safety and health of workers engaged in lift shaft works, the Contractor should:

為保障參與升降機槽工程的人員的安全和健康，承建商須：

- (1) plan the lift shaft works

規劃升降機槽工程

- (2) provide lift shaft protection

提供升降機槽保護

- (3) conduct a risk assessment and prepare a method statement on any lift shaft work

對任何升降機槽工程進行風險評估，並編製施工程序

Safe System of Work on Lift Shaft Works

升降機槽工程安全工作制度

- (4) design, construct, use and maintain lift shaft platforms properly
正確地設計、建造、使用及維修升降機槽平台
- (5) develop and implement a permit-to-work system for any lift shaft work for close supervision on the adoption of safety precautions
為升降機槽工程發展及實行工作許可證制度，以密切監督是否採納了安全預防措施
- (6) provide fall-arrest system and safety training to workers
為工人提供防墮設施和安全培訓
- (7) pay special attention to buildings under Temporary Occupational Permit (TOP) arrangement
特別留意有關建築物在臨時佔用許可證安排下的事項

(1) Planning of Lift Shaft Works

升降機槽工程規劃

(1) Planning of Lift Shaft Works

升降機槽工程規劃

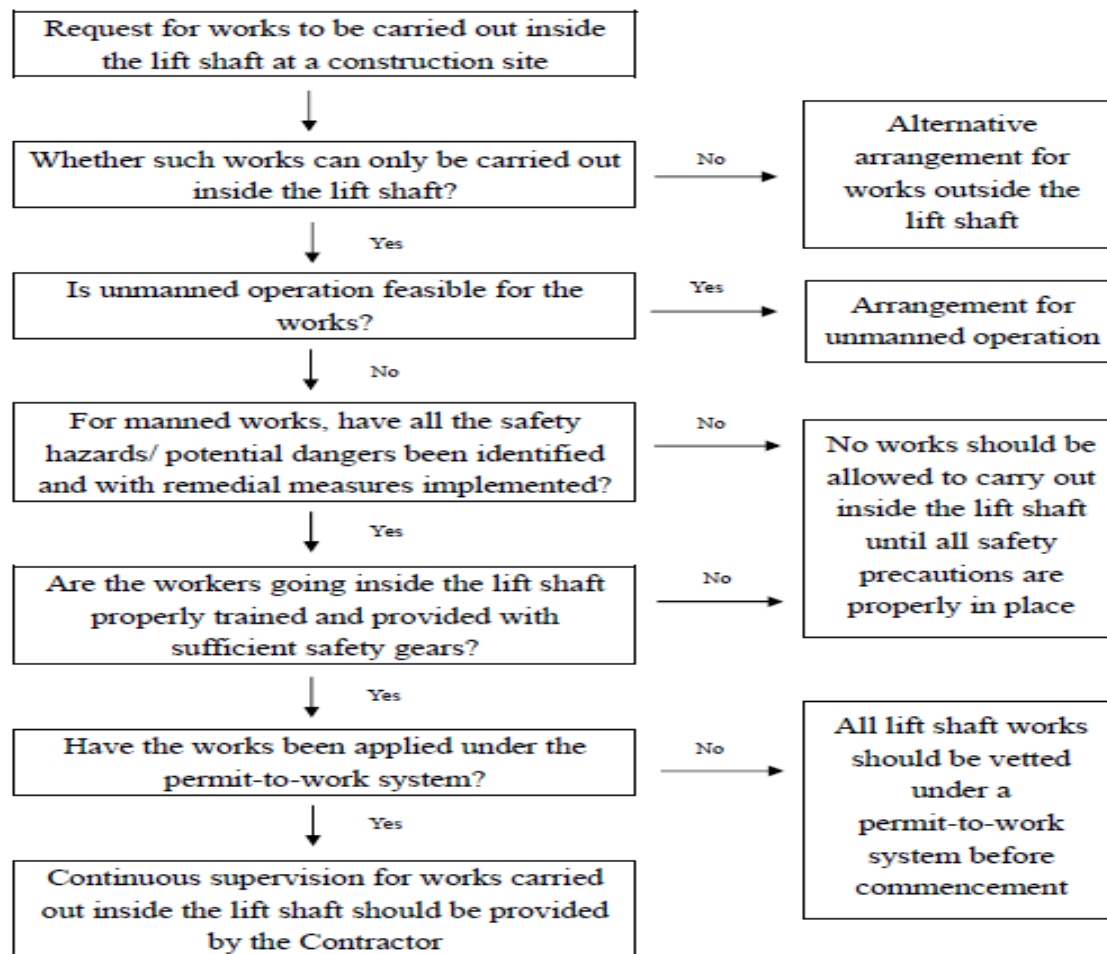


Figure 2: Assessment steps on the need to carry out lift shaft works

(1) Planning of Lift Shaft Works

升降機槽工程規劃

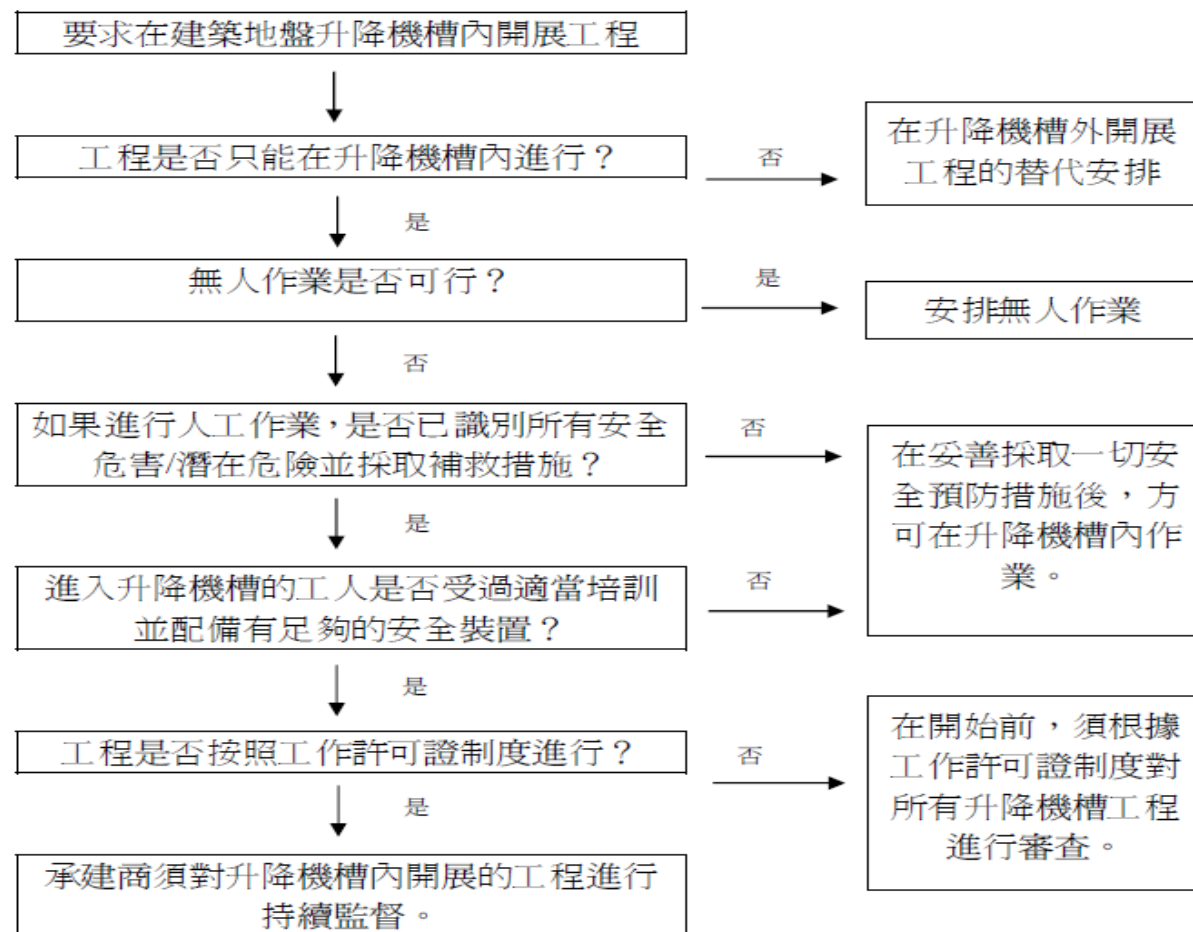


圖 2：按需要進行升降機槽工程的評估步驟

(1) Planning of Lift Shaft Works (Attention)

升降機槽工程規劃 (注意)

Pay attention to the following high risk situations:

注意以下特別高風險之情況：

- (a) it is strongly advisable NOT to allow a lift shaft to be used as a refuse chute

切勿把機槽當作垃圾槽使用



A temporary
refuse chute
臨時垃圾槽

(1) Planning of Lift Shaft Works (Attention)

升降機槽工程規劃 (注意)

- (b) if practicably unavoidable and the lift shaft is used for refuse handling purpose:
如確實難以避免將機槽用作垃圾處理用途：
- (i) protective fences/ guardrails should be properly installed to ensure that rubbish/ debris can be cleared without endangering the lives of the workers
須妥善安裝防護欄，以確保清理垃圾時不會危及工人的生命安全
 - (ii) under no circumstance should any person be allowed to enter into the lift shaft at any time
必須禁止任何人於任何時間進入機槽
 - (iii) there should be sufficient solid barrier and restraint to prevent workers from entering the lift shaft
須設置足夠而穩固的柵欄和障礙物，以防止工人進入機槽
 - (iv) refuse should be removed from the work site through the temporary refuse chute
須使用臨時垃圾槽把廢料自地盤搬走

(1) Planning of Lift Shaft Works (Attention)

升降機槽工程規劃 (注意)

Pay attention to the following high risk situations:

注意以下特別高風險之情況：

- (c) it is strongly advisable NOT to use lift shafts to house material hoists or for material transportation by lifting appliances

切勿將機槽用於設置物料吊重機，或以吊運裝置於機槽中運輸物料



(1) Planning of Lift Shaft Works (Attention)

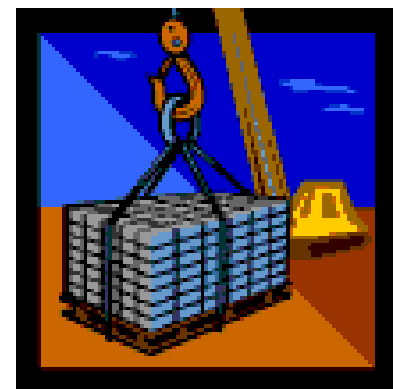
升降機槽工程規劃 (注意)

- (d) if practically unavoidable and there is a need to use a lift shaft for these purposes, the planning should include the design and construction of proper landing platforms

如確實難以避免利用機槽作該等用途，應首先進行規劃，包括設計和建造適當的裝卸平台

- (e) interlocking gates should be fixed at lift shaft door openings. The anchorages of lifting appliances should be assessed

在機槽開口處安裝聯鎖門，並對吊運裝置的錨定進行結構評估



(1) Planning of Lift Shaft Works

升降機槽工程規劃

- a planning team should be formed to participate in the planning process
須組織一個規劃團隊參與制定升降機槽工程的計劃
- the team should comprise of site managerial and supervisory representatives from main contractor and subcontractors, and the related personnel (including subcontractor's representatives who will be involved in the lift shaft works)

團隊應包括承建商和分包商的地盤管理和監督代表，以及相關人員（包括參與升降機槽工程的分包商代表）



(1) Planning of Lift Shaft Works

升降機槽工程規劃

- the plan should be properly documented by the RSO
有關工作計劃須由註冊安全主任妥善備檔
- it should identify the job responsibilities and duties of each member of the planning team
計劃須明確規定規劃團隊每名成員的工作責任和職責



(2) Provision of Lift Shaft Protection

提供升降機槽保護

(2) Provision of Lift Shaft Protection

提供升降機槽保護

According to the actual site condition, adopt appropriate safety measures for lift shaft protection:

應就工地的情況，採取適當的安全措施以保護升降機槽：

- all openings to a lift should be fenced off by installation of temporary steel covers or gates to prevent materials falling from landing floors to lift shafts

須為升降機槽的一切開口，安裝臨時鋼覆層或閘門，以防止人員或物品跌進槽內



(2) Provision of Lift Shaft Protection

提供升降機槽保護

- the gate should be closed at all times and could be locked from outside. However, it should be readily open from the inside of lift shafts at any time without the need of separate key operations

閘門須時刻關上，並可從外面鎖上。不過，須能隨時不用鎖匙而能夠輕易地從升降機槽內打開



(2) Provision of Lift Shaft Protection

提供升降機槽保護

- place warning notices and safe working procedures near lift shaft openings at prominent locations to remind all site personnel to take all necessary safety precautions when entering the lift shaft

在升降機槽開口處的當眼位置放置警告告示和安全工作程序，以提醒地盤所有人員在進入升降機槽時須採取一切必要的安全預防措施



(2) Provision of Lift Shaft Protection 提供升降機槽保護

- for openings above lift shaft in lift machine room, they should be protected by ferrule or concrete curb and covered up with fixed wooden board or metal plate. Ventilation openings should also be covered with mesh and reinforcement

至於升降機機房內處於升降機槽上方的開口，須使用金屬套圈或混凝土壘予以保護，並蓋上隱固的木板或金屬板。通風口亦應用絲網和加固件覆蓋。



(3) Risk Assessment

風險評估

(3) Risk Assessment

風險評估

- risk assessment should be conducted by the planning team on each type of lift shaft works

規劃團隊須對每種升降機槽工程作出風險評估

- the Registered Safety Officer (RSO) should be consulted for completeness of the risk assessment process

同時必須徵詢註冊安全主任的意見



(3) Risk Assessment

風險評估

- with reference to each procedural step of a lift shaft work, the assessment should recommend safety precautions and state the person responsible to execute the safety measures

評估須參照升降機槽工程的每個程序步驟，建議採取安全預防措施，並指定負責執行安全措施的人員

- the risk assessment report should be signed by the RSO and endorsed by a project manager or a site agent of the Contractor

風險評估報告須經註冊安全主任簽署，並由承建商的項目經理或地盤總管加簽

(3) Risk Assessment

風險評估

sample assessment report for lift shaft works:
升降機槽工程的風險評估報告範本：

附件 B

評估表範本
(注意：本評估表格之內容及格式僅作參考之用。負責為升降機槽工程作風險評估之人士，可作適當修改以配合其工程項目之實際需要。)

工作危害分析及風險評估報告

拆除施工升降機內的升降機槽平台

擬建物業發展項目

風險評估編號	日期：	編製：	覆核：	批准：
版本：1.0	生效日期：	姓名 (職務全稱)	姓名 (職務全稱)	姓名 (職務全稱)

22

附件 B

風險評估

頻率等級：

等級	頻率等級說明
F1	頻繁 — 每月發生一次事故或更多。每年超過 10 宗 (>10 宗/年)。
F2	常見 — 每年發生多次事故。每年 1 至 10 宗 (1 宗/年 - 10 宗/年)。
F3	可能 — 每隔數年發生一次事故。每年一至每 10 年一次 (0.1 宗/年 - 1 宗/年)。
F4	極少 — 在系統使用週期內發生一次或數宗事故。每 10 年一至每 100 年一次 (0.01 宗/年 - 0.1 宗/年)。
F5	不太可能 — 預計在系統使用週期內不會發生事故。每 100 年一至每 1000 年一次 (10 ⁻³ 宗/年 - 0.01 宗/年)。
F6	不可能 — 預計在系統使用週期過後不會發生事故。每 1000 年一至每 10,000 年一次 (10 ⁻⁴ 宗/年 - 10 ⁻³ 宗/年)。
F7	絕不可能 — 預計不會發生事故。機率低於每 10,000 年一次 (<10 ⁻⁴ 宗/年)。

嚴重性等級：

等級	嚴重性等級說明
R	與服務相關 — 對安全並無直接影響。
C1	輕微 — 可導致表面傷害的傷害，只需施以急救處理。
C2	較輕微 — 可導致軟組織傷害或可復原傷害的傷害，不屬於嚴重傷害。
C3	嚴重 — 可導致截肢、骨折或脫臼、內傷、失去一隻眼睛、燒傷或任何其能危害到受害人在事故發生後被立即送入醫院接受觀察或治療的傷害。
C4	十分嚴重 — 可導致死亡 (<15 人/事故)、在單次事故中導致多人嚴重受傷 (>15 人/事故)、或在單次事故中導致多人受到較輕微傷害 (>200 人/事故) 的傷害。
C5	災難 — 在單次事故中可導致多人死亡 (>15 人) 或大批人嚴重受傷 (>200 人/事故) 的傷害。

風險矩陣：

嚴重性 頻率	風險矩陣					
	R-頻繁(>10 宗/年)	C1-輕微	C2-較輕微	C3-嚴重	C4-十分嚴重	C5-災難
F1-頻繁(>10 宗/年)	R	B	A	A	A	A
F2-常見 (1 宗/年 - 10 宗/年)	R	B	B	A	A	A
F3-可能 (0.1 宗/年 - 1 宗/年)	R	C	B	A	A	A
F4-極少 (0.01 宗/年 - 0.1 宗/年)	R	C	C	B	A	A
F5-不太可能 (10 ⁻³ 宗/年 - 0.01 宗/年)	R	D	C	C	B	A
F6-不可能 (10 ⁻⁴ 宗/年 - 10 ⁻³ 宗/年)	R	D	D	C	C	B
F7-絕不可能 (<10 ⁻⁴ 宗/年)	R	D	D	D	C	C

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附件 B

風險等級描述：

風險等級	描述
A	高風險 — 應立即採取控制措施，將風險降至 ALARP (合理及可行之最低水平) 水平。
B	中等風險 — 應在合理時間內採取具成本效益的風險控制措施，將風險降至 ALARP 水平。
C	低風險 — 應在稍後時採取具成本效益的風險控制措施，將風險降至 ALARP 水平。
D	可忽略不計的風險 — 可接受的風險；通常無需另行採取風險控制行動。可隨時採取具成本效益的風險控制措施，以進一步降低風險。
E	危害排除 — 危害已在源頭排除或不再存在。在項目危害記錄中，該等級亦包括在項目範圍內不存在的危害。

安全預防措施的優先級別：

高(H) — 風險等級 A 中的風險程度

1. Review the work procedure immediately; 立即檢討施工程序
2. Formulate safety measures to reduce the risk to "Low" level; 執行安全措施，將風險減到最低
3. Supervision by competent person. 由合資格人士監督

中(M) — 風險等級 B 中的風險程度

1. Review the work procedures within reasonable time in reasonable time 在合理時間內檢討施工程序
2. Formulate safety measures to reduce the risk to "Low" level. 執行安全措施，將風險減到最低

低(L) — 風險等級 C 至 E 中的風險程度

1. Follow in-house safety rules and statutory requirements. 遵守內部安全守則及法例

Note 註: If the control measures are unable to reduce the risk to "Low" level 如控制措施不能將風險減到最低:

1. The method statement shall be reviewed by the engineer; 施工程序必須由工程師檢討
2. Re-assess the risk according to the revised method statement and procedures 按照修正後的施工程序再作風險評估

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(3) Risk Assessment

風險評估

recommended contents for the assessment report:

評估報告建議內容：

附件 B

Risk Assessment Report 風險評估報告

項目：擬建物業發展項目

報告編號：

生效日期：

工序：

拆除升降機槽平台，第 1 頁（共 4 頁）

檢討日期：

編製：

Item 項目	Activities/ Locations 工序 / 地點	Hazard 危害	Degree 程度			Control Measures 控制措施	Action 執行	Personal Protective Equipment 個人防護 用具	Training 訓練	Original Risk 原有風險	Residual Risk 剩餘風險
			Likelihood 可能性	Consequence 嚴重性	Risk 風險						
1	與拆除施工升降機內的臨時升降機槽金屬平台有關的工程規劃及僱員遴選	不熟悉現場環境 不熟悉與工作相關的 危害，及 未經授權 而開始在 現場工作	F4	C3	B	1. 拆除升降機槽平台時，應嚴格遵照拆除順序及圖則。 2. 每次工作時，作業人員應隨身攜帶標示拆除順序的圖則。 3. 承接拆除工作的作業人員應接受特別培訓，並聽取 MC & S/C 的工作介紹。 4. 只有 S/C 委任的作業人員可承接此工作。若作業人員出現變動或更替，S/C 應向 MC 匯報。 5. 對於新委任的負責拆除工作的作業人員，應透過特別培訓或工作介紹重複上述 1-4 項。 6. 對承接工作的作業人員使用安全吊帶（附帶能量吸納器吊繩及 D 鉤）進行規劃。 7. 對預留的系繩孔進行規劃，這些是專為固定 16 mm 的系繩用具而設的固定點。 8. 對委任合資格人士負責拆除工作進行規劃，該人士應監督作業人員的施工過程並記錄細節。	設計階段： 項目工程師 + 高級地盤監督 + 地盤負責人 + 合資格人士 + 安全主任 施工階段： 地盤管工 + 地盤負責人 + 合資格人士 + 作業人員	安全帽、安全鞋、安全吊帶、能量吸納器吊繩、D 鉤	施工程序介紹及（作業培訓）及使用安全吊帶	B	A

(4) Design, Construction, Use and Maintenance of Lift Shaft Platforms

設計、建造、使用及維修
升降機槽平台

(4) Design, Construction, Use and Maintenance of Lift Shaft Platforms

設計、建造、使用及維修升降機槽平台

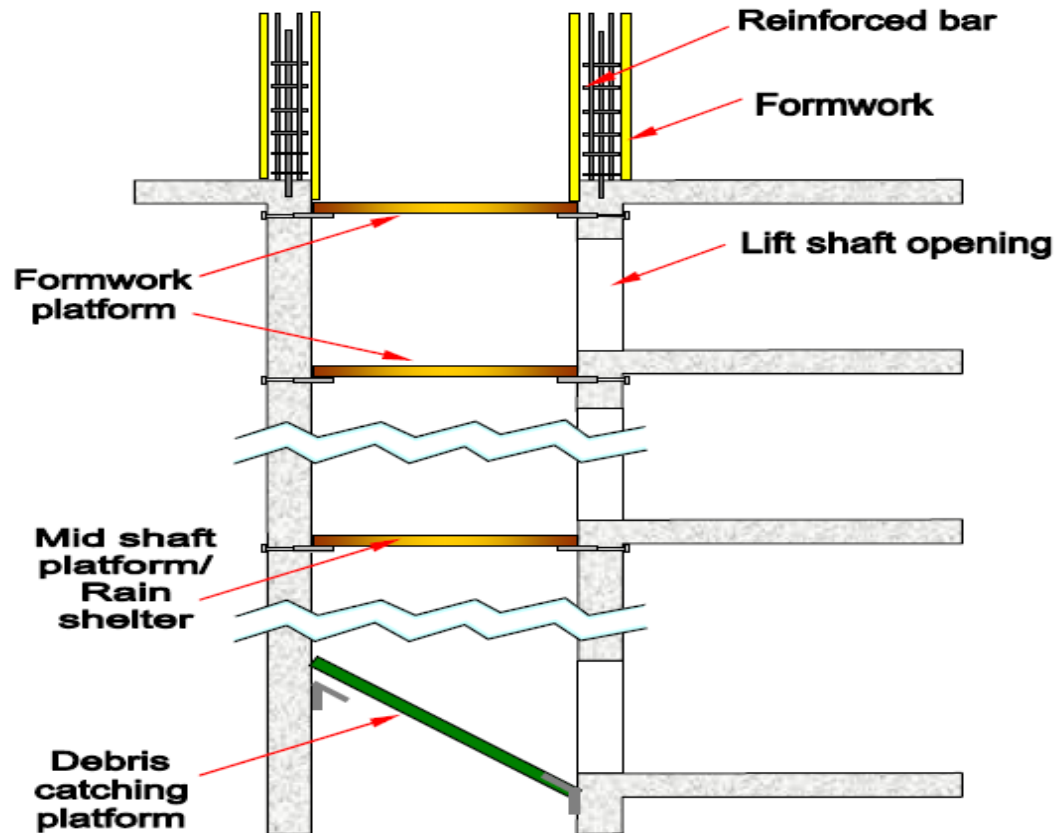


Figure 1: Various types of lift shaft platforms

(4) Design, Construction, Use and Maintenance of Lift Shaft Platforms

設計、建造、使用及維修升降機槽平台

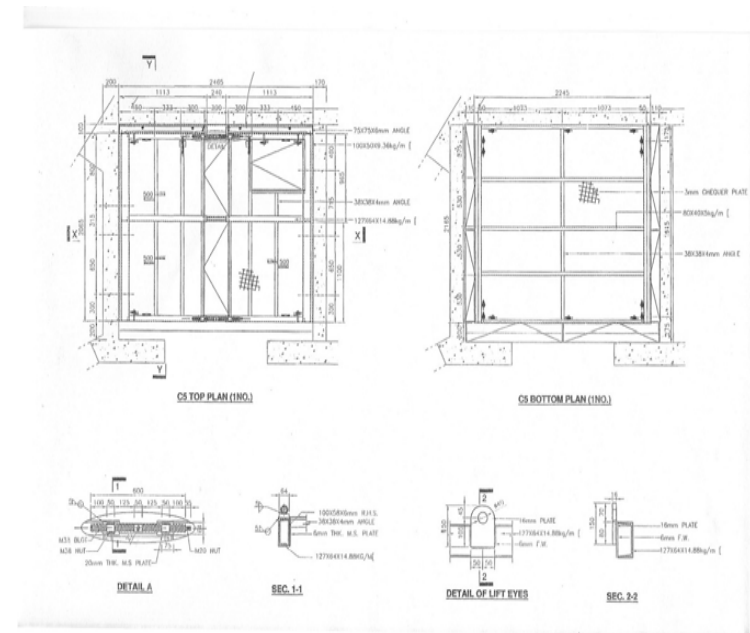
Design / 設計：

- lift shaft platform should be properly designed by a Registered Structural Engineer (RSE) employed by the Contractor

升降機槽平台須由承建商僱用的註冊結構工程師設計

- the design plan should contain all the necessary details and specifications of the platform and should be kept available on site for inspection by the Labour Department

設計計劃須包含平台所有必要的資料和規格說明，並存放於地盤現場，以備勞工處核查



(4) Design, Construction, Use and Maintenance of Lift Shaft Platforms

設計、建造、使用及維修升降機槽平台

Design / 設計：

- any alteration to the lift shaft platform should be designed by the RSE employed by the Contractor
- the construction plans and method statements for the alteration works should be prepared by the Contractor's Engineer and checked and signed-off by the RSE employed by the Contractor

改動工程的施工計劃和方案須由承建商的工程師編製，並經承建商僱用的註冊結構工程師檢查及簽核



(4) Design, Construction, Use and Maintenance of Lift Shaft Platforms

設計、建造、使用及維修升降機槽平台

Construction / 建造：

- lift shaft platform should be erected, and/or dismantled in accordance with the construction plans prepared by the Contractor's Engineer
升降機槽平台須按照承建商的工程師編製的施工計劃搭建及／或拆除
- the work should be carried out under the immediate full-time supervision of a competent person with TCP T1 qualifications appointed in writing by the Contractor
承建商必須書面委任持有TCP T1資格的適任專職人員直接監督施工
- upon completion, the works should be checked by the Contractor's Engineer
完工後，工程須經承建商的工程師檢查

(4) Design, Construction, Use and Maintenance of Lift Shaft Platforms

設計、建造、使用及維修升降機槽平台

Use and Maintenance / 使用及維修：

- lift shaft platform should be properly maintained by regular cleaning to prevent the accumulation of debris

須妥善保養每個升降機槽平台，定期清理，防止碎料累積

- steps should be taken to ensure that no materials and debris are thrown, tipped or shot down onto a lift shaft platform unless the platform has been designed in the form of a crash deck

除非平台設計為防撞層，否則須採取措施，確保物料和碎料不會被拋擲、傾倒或投擲於升降機槽平台上

- it is strongly advisable NOT to allow simultaneous working at two different levels

切勿讓工人在兩個不同層級同時工作

(5) Implementation of a Permit-to-Work System

實行工作許可證制度

(5) Implementation of a Permit-to-Work System 實行工作許可證制度

- a permit-to-work system should be developed and implemented for any lift shaft works

須為各項升降機槽工程制定並實施工作許可證制度

- a checklist containing the safety measures from the risk assessment report of a lift shaft work and a permit-to-work certificate should be developed by an RSO and executed by a Builders Responsible Person

註冊安全主任須編製一份核對清單（當中包括風險評估報告中提出的安全措施和工作許可證），並由工程負責人實行有關安全措施和簽發工作許可證證書

(5) Implementation of a Permit-to-Work System 實行工作許可證制度

- the Builders Responsible Person should be at the foreman level or above, with possession of 工程負責人須為管工級別或以上之人士，並持有
 - (i) training certificate of construction safety supervisor course, AND 建造業安全督導員課程證書及
 - (ii) TCP T1 qualifications and at least 5 years of related work experience, OR TCP T1之資格及最少5年相關工作經驗；或
 - (iii) at least 10 years of related work experience 最少10年相關工作經驗



(5) Implementation of a Permit-to-Work System 實行工作許可證制度

The permit-to-work certificate should record the following:

發出工作許可證證書時，須記錄以下內容：

- the findings in the risk assessment report
風險評估報告的結果
- the effectiveness of the isolation and withdrawal from service
隔離和撤銷服務的效力
- the nature of work to be done
擬進行工作的性質
- the condition and safety precautions in the workplace
工作場所的狀況和安全預防措施
- the period during which workers may remain safely in the lift shaft
工人可安全停留在升降機槽內的時段

(5) Implementation of a Permit-to-Work System

實行工作許可證制度

Annex C

SAMPLE FORM

工作許可證 (升降機槽內工作)
Permit to Work (Work inside lift shaft)

Permit No. 許可證號碼: _____

Project 地盤名稱 : _____

Location 工作地點 : (Lift shaft no. 升降機槽) (Floor 樓層)

Description of work 工作性質: _____

Company 公司: _____ Date: _____

Permit valid from 許可工作由: _____ hrs. to 至: _____ hrs.

Foreseeable hazards associated with the work 可預見危害:

☐ Falling Objects 物料從高處下墮

☐ Fall of person 人體從高處下墮

☐ Insufficient Lighting 燈光不足

☐ Electric Shock 觸電

☐ Simultaneous working by different parties (e.g. workers, contractors) at two separate levels within the lift shaft 不同人士 (例如工人、承建商) 在升降機槽內兩個不同層面同時工作

☐ Other, please specify 其他, 請註明 _____

Safety precautions taken 安全措施:

☐ Suitable working platform w/valid CSSR-Form 5 檢驗合格的工作台及表格五

☐ Independent lifeline fixed to suitable anchorage point 繫扣於合適穩固點上的獨立救生繩

☐ Full body harness w/fall arrestor 全身式安全帶連防墮器

☐ Guardrail / Toe-board / Wire net 井口圍欄 / 踢腳板 / 防墮鐵網

☐ Safety helmet / Gloves / Eye-protector / Ear-protector 安全帽 / 手套 / 眼罩 / 耳塞

☐ Warning signs 警告牌

☐ Portable lighting device 燈光設備

☐ Proper isolation of electricity and grounding 良好絕緣及接地

☐ Prominent display of work permit 於工作地點張貼工作許可證

☐ Catch Fence 防墮物屏障

☐ Other, please specify 其他, 請列明 _____

Ensure that all lift shaft openings above the working level are properly fenced off and completed with wire net and toe-board

確保工作地點上方之升降機槽口, 已經圍封及裝有防墮鐵網及踢腳板

Annex C

SAMPLE FORM

工作許可證
Permit to Work

Permit No. 許可證號碼: _____

Certification 證明

I certify that the above precautions have already been taken. I had briefed the safety procedures to all workers involved in the work and they will be strictly followed in the duration of the work.
本人證明前述安全措施已全部妥善執行。本人已清楚向下列工作人員講解有關安全工作步驟, 並保證遵守。

Signature 簽名: _____

Permit holder (持有許可證人士) Builders Responsible Person (*工程負責人)

(to be signed before commencement of works 開工前簽發)

Acceptance of the Permit 接受有關許可證

I have read and understood this Permit and shall undertake to work in accordance with all the conditions laid down in it.
本人已細閱及明白有關許可證, 並承諾於工作中謹遵有關條款。

Signature 簽署: _____

Supervisor (監督人員) Permit Holder (持有許可證人士)

Details of the work team 工作人員資料:

Supervisor 監督人員姓名: 1. _____, 2. _____

Workman 工作人員姓名: 1. _____, 2. _____, 3. _____

4. _____, 5. _____, 6. _____

7. _____, 8. _____, 9. _____

Permit cancellation 撤銷許可證

I certify that the work under this permit is completed. All workers, tools and equipment are cleared from the job area.
本人證明此許可證內所述之工作經已完成。全部工人、工具及物料已搬離工作地點。

Signature 簽署: _____

Supervisor (監督人員) Permit Holder (持有許可證人士)

(to be signed upon completion of works 完工後簽發)

Remarks: * Builders Responsible Person for the certification of the Permit-to-work should be at the foreman level or above.
備註: * 工程負責人必須為管工級別或以上之人士, 方可簽發。

(5) Implementation of a Permit-to-Work System 實行工作許可證制度

- access to lift shaft should be strictly confined
須對升降機槽的進出施加嚴格限制
- it should only be granted to workers or other personnel who have attended suitable technical and safety training
僅限於已參加適當的技術或安全培訓的工人或其他人員進出
- unauthorized entry into the lift shaft should be strictly prohibited
須嚴格禁止擅自進入升降機槽

(5) Implementation of a Permit-to-Work System 實行工作許可證制度

- it is strongly advisable NOT to allow more than one sub-contractor to have access to the lift shaft at the same time. If concurrent access of a lift shaft by more than one (sub)contractor is practicably unavoidable, a permit-to-work certificate should only be issued on those working space properly separated and protected by crash deck(s)

切勿允許一名以上的分包商同時進入升降機槽。若確實需要同時進入，只有適當隔離並受防撞層保護的工作場所才可獲發放工作許可證證書

(6) Provision of fall-arrest system and safety training

提供防墮設施和安全培訓

(6) Provision of fall-arrest system and safety training

提供防墮設施和安全培訓

- should provide and maintain sufficient fall-arrest system for workers engaged in any type of lift shaft works

須提供充足的防墮設施，以供參與任何類型的升降機槽工程的工人使用

- the fall-arrest system should contain an independent lifeline, a lanyard and a full body harness for each worker

防墮設施中，須配置獨立救生繩、繫索及全身式安全帶



(6) Provision of fall-arrest system and safety training

提供防墮設施和安全培訓

- the independent lifeline should be securely anchored to a wall anchor or a wall structure
獨立救生繩須牢固地繫在牆錨或牆架上
- no worker should enter or work inside a lift shaft without wearing a safety harness attached to an independent lifeline
如未佩戴繫在獨立救生繩上的安全帶，任何工人不得在槽內工作

(6) Provision of fall-arrest system and safety training 提供防墮設施和安全培訓

- before the commencement of any lift shaft works, workers engaged in any lift shaft work should be briefed on the findings of the risk assessment report, the safety procedural steps of a method statement and the implementation of a permit-to-work system

在任何升降機槽工程開始前，須向參與工程的工人簡介風險評估報告的結果、施工程序的安全步驟及工作許可證制度的施行



(6) Provision of fall-arrest system and safety training 提供防墮設施和安全培訓

- the safety and health training should include drills on steps and procedures to be followed in case of emergency or accident as part of the safety and health training. Records of safety training should be properly kept

安全和健康培訓包括：發生緊急情況或意外時須遵從的步驟和程序，安全培訓記錄須妥善保存



(7) Special Attention to Buildings under TOP Arrangement **在臨時佔用許可證安排下須特別注意的事項**

- the safety management and precautions for buildings under TOP arrangement shall be presented by representatives of Hong Kong Construction Association and Buildings Department in the next session
有關在臨時佔用許可證安排下須特別注意的事項，將在第三節簡報由香港建造商會及屋宇署之代表講解

(D) Summary

總結

- the Guidelines enhance work safety of site personnel working near or inside a lift shaft during the construction stage and before handing-over to the lift installation contractor

指引加強了於施工期間及升降機槽移交予升降機安裝承建商前，在升降機槽附近或內部工作的工地人員的作業安全

- it is hoped that the Guidelines could stimulate the whole construction industry to adopt safe practices for lift shaft works

議會希望通過有關指引，可帶動業界更廣泛採用升降機槽工程的安全措施

- We encourage industry practitioners to develop a safe system of work under the principles of risk elimination, hazard reduction, accident prevention and protection of workers

我們鼓勵業界根據消除風險、減少危害、避免意外及保障工人的原則，訂立安全工作制度



(E) Enquiries

查詢

Enquiries on these guidelines may be made to the CIC Secretariat at –
有關指引可向建造業議會秘書處查詢，聯絡方法為：

Address / 地址： Room 2001, 20/F, Alliance Building,
130 – 136 Connaught Road Central, Hong Kong
香港干諾道中130號–136號，誠信大廈2001室

Tel. No. / 電話： (852) 3571 8716

Fax. No. / 傳真： (852) 3571 9848

Email / 電郵： enquiry@hkcic.org

Website / 網址： www.hkcic.org

Specification Enhancements

To follow CIC's "Guidelines on Safety of Lift Shaft Works" and highlight key measures including but not limited to the following -

Safe System of Works

- a. plan the works
 - i. lift shaft not for material delivery
 - ii. lift shaft protection in case of TOP
 - iii. planning team with a TCP T4 personnel
- b. provide lift shaft protection
 - i. full height metal gate
 - ii. openings above lift shaft to be covered
- c. provide proper lift shaft platform
 - i. contractor's RSE to design lift shaft platform, check and sign off the method statement on erection, alteration, maintenance and dismantling of lift platform prepared by contractor's engineers

Specification Enhancements

Safe System of Works (cont'd)

- d. implement permit-to-work
- e. building under temporary occupation permit
 - i. fire separation, safe access to lift shaft, use of non-combustible materials, alarm signal, warning sign, checking of fire separation and safe access provision for lift shaft
 - ii. conduct risk assessment
 - iii. implement permit-to-work
 - iv. no gas cutting and electric welding inside lift shaft within TOP boundary
 - v. no change to lift shaft protection unless with approval with CM



CONSTRUCTION
INDUSTRY COUNCIL
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Thank you!

多謝！

