



Example of Critical Pass Element & High Risk Activities





Adjust weighting of items under **PART A**

- Reduce weighting of **procedural items** from **6 to 3 marks**
- Weighting of items in **physical performance** aspects to remain at **6 marks**



Adjust weighting of items under **PART B**

Items of:

- 1. Guidelines and Procedures** remain **3 marks**
- 2. Implementation Aspects** increase **from 3 to 6 marks**
- 3. High Risk/Incidence Rate** up by two folds **from 3 marks to 9 marks; i.e.**
 - Falling from height*
 - Falling objects*
 - Lifting operations*
 - Housekeeping*
 - Electric cables laying on ground*



Introduction of Critical Pass

In Part A key elements & Part B high-risk subsections:

(Scores must be $>$ or $=$ 70%)

Critical Pass in Key Elements of **Part A**

- Element 6. Safety Inspection
- Element 7. Job Hazard Analysis

Critical Pass in High-risk Subsections of **Part B**

- Subsection 14.1.3 Working Height
- Subsection 14.1.4 Housekeeping
- Subsection 14.1.5 Falling Objects
- Subsection 14.3.3 Lifting Operations



Critical Pass in Key Elements of Part A

Element 6. Safety Inspection

- Arrangement on different types of safety inspection was not addressed in safety plan.
- Duties of SO and SS according to F&IU(Safety Officers and Safety Supervisors) Regulations were not clearly stated in the safety plan.
- Poor quality and unreliable safety inspection. Such as no improvement action for substandard condition identified during inspection. Material hoist and passenger hoist are rated “good” in the inspection report which should not be existed.
- Arrangement on analysis of inspection result was stated in safety plan. No analysis done.



Critical Pass in Key Elements of Part A

Element 7. Job Hazard Analysis

- Risk assessment was not conducted by the risk assessment team as addressed in the safety plan.
- No risk assessment and method statement conducted specific operation.
- Quality of risk assessment (coverage, risk rating, safety measures)
- The method statement & safe working procedure on construction activity was not developed based on the results of risk assessment.



Critical Pass in High-risk Subsections of Part B

- Subsection 14.1.3 Working Height
- Subsection 14.1.4 Housekeeping
- Subsection 14.1.5 Falling Objects
- Subsection 14.3.3 Lifting Operations



High Risk Activities

- **Section 14.1.3 Working at Height**

High risk – fatal accidents

Industry wide statistics (fatal cases):

- 56% in 2005
- 47% in 2004
- 36% in 2003

- **Arrangement/Procedure Question**

Q14.1.3.1 Have the requirements in the regulations, codes of practice and guidance which apply to means of access and work positions (e.g. scaffolds) been identified? (remain 3 marks)



Working at Height

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OCCUPATIONAL SAFETY & HEALTH COUNCIL

Implementation Question

Q14.1.3.3 Has every worker been provided with a safe place of work such as provision of proper working platforms or if not practicable, the use of the fall-arresting system etc. for all activities? (3 marks to 9 marks)





Working at Height





Unsafe access to formwork area





**Access Ladder cannot reach the location for workers
to erect temporary works**





Substandard make shift ladder and unprotected floor edges





Proper access and egress





Improper working platform provided at work areas





Improper working platform for the construction of planter





Substandard working platforms on bamboo scaffold





Working platform without access ladder





Working platform was found without side guard-rail





Provision of proper working platform at external metal scaffold





Use of aluminum working bench





Fencing erected at the edge of temporary works without middle guard-rail





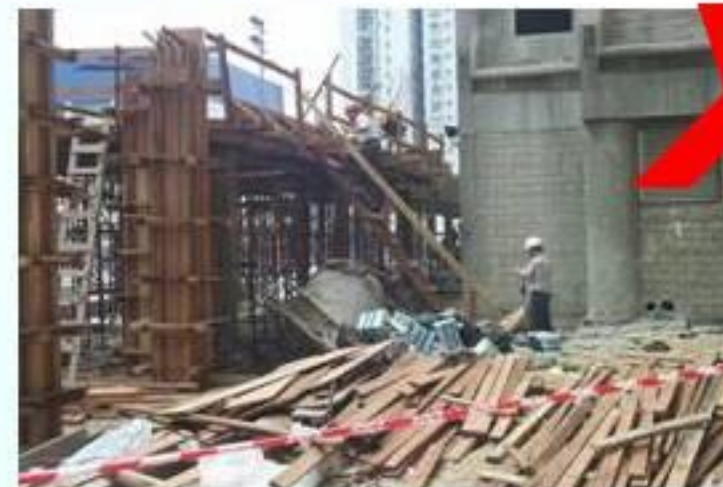
Housekeeping

職業安全健康局
OCCUPATIONAL SAFETY & HEALTH COUNCIL

Implementation Question

Q14.1.4.5 Are materials and equipment stored and stacked safely?

(3 marks to 9 marks)





High Incidence Rate Activities

Housekeeping (Section 14.1.4)

High incidence rate

- Slip, trip or fall on same level
- Stepping on objects
- Number of accident cases - major causes

Industry wide statistics:

- 19% of total cases in 2005
- 18% in 2004
- 20% in 2003
- 4% of fatal cases in 2003

Arrangement/Procedure Question

Q14.1.4.6 Do regular workplace inspections include housekeeping?

(remain 3 marks)



High Risk Activities

Electric cable lying on ground

- Trip or fall hazards
- Electrical hazard
- Consequence could be serious
- In response to HA site audits

Question 14.5.3.2

**Are electric cables adequately suspended/
installed to avoid them from being unduly
laid on floor? (3 marks to 9 marks)**





High Risk Activities

Falling Objects (Section 14.1.5)

Industry wide statistics, Most of the cases were **serious accident cases**

- 4.2% in 2005
- 3.6% in 2004 , 18% of fatal cases in 2004
- 5.4% in 2003 , 12% of fatal cases in 2003

Arrangement/Procedure Question

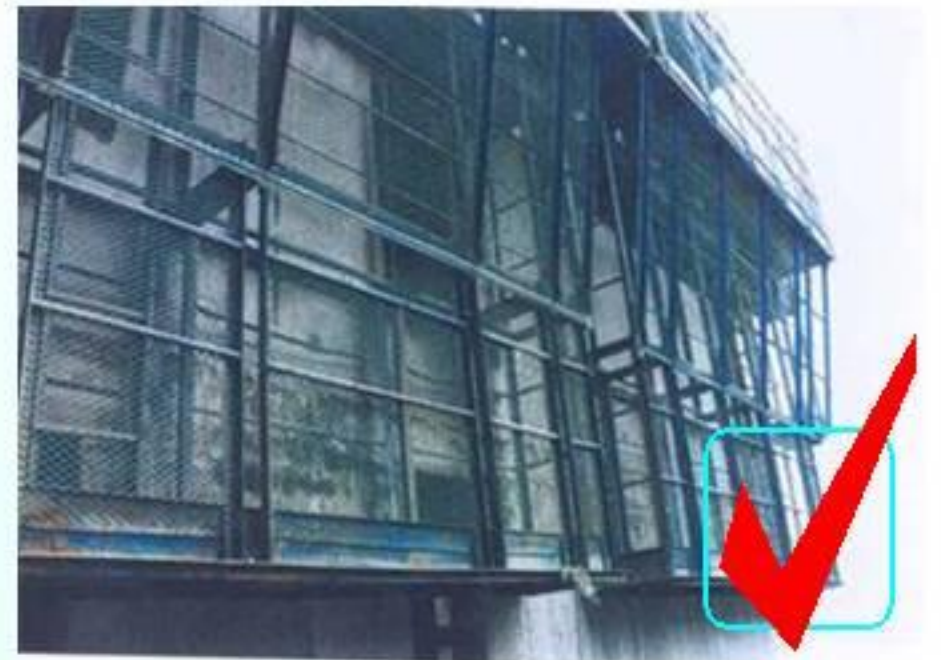
Q14.1.5.1 Is there a procedure to ensure that the risk of materials falling from height and injuries arising out of such risks are substantially reduced?
(remain 3 marks)



Protection against Falling Objects

Implementation Question

Q14.1.5.5 Are all working platforms and floor edges provided with toe-boards to prevent materials from falling from height? (3 marks to 9 marks)





Material hoistway not fully covered



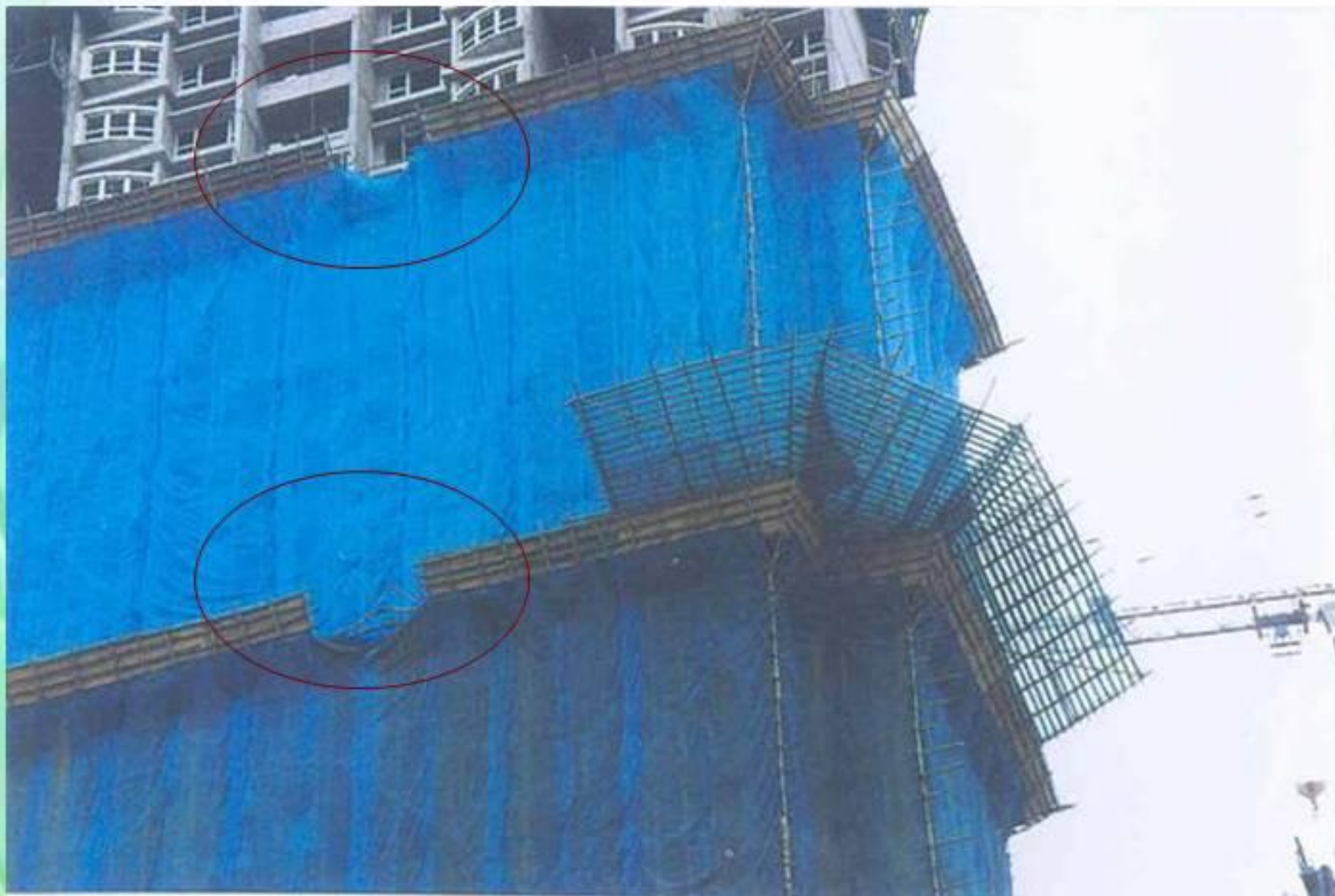


Housekeeping & Protection against Falling Objects





Insufficient protection of catch fans





Loose materials and timbers on the floor edge





Unsafe stacking material on loading platform





Temporary loading platform with railings and toe-boards





Provision of safety net for prevention against falling object





Use of tools strap to prevent falling objects





High Risk Activities

Lifting Operation (Section 14.3.3)

- Increase due to change of construction method pre-cast construction-façade walls, etc.
- Involving heavy machinery and very heavy load leading to
 - (a) “striking against or struck by moving object” &
 - (b) “struck by falling object”

Majority in serious nature, Industry wide statistics:

- 23% of total cases in 2005
- 24% in 2004
- 23% in 2003

- 4% of fatal cases in 2005
- 35% in 2004
- 16% in 2003



High Risk Activities

Lifting Operation (Section 14.3.3)

Arrangement/Procedure Question

Q14.3.3.4

Are there any method statements for erecting and dismantling of lifting appliances? **(remain 3 marks)**





High Risk Activities

Lifting Operation (Section 14.3.3)

Implementation Question

Q14.3.3.5

Are all lifting plant and associated lifting gear suitable for the lifting operations and carried out safely?

(3 marks to 6 marks)





Improper clipping of lifting wire & damaged safety latch





Improper wrapping of loose material in lifting operation

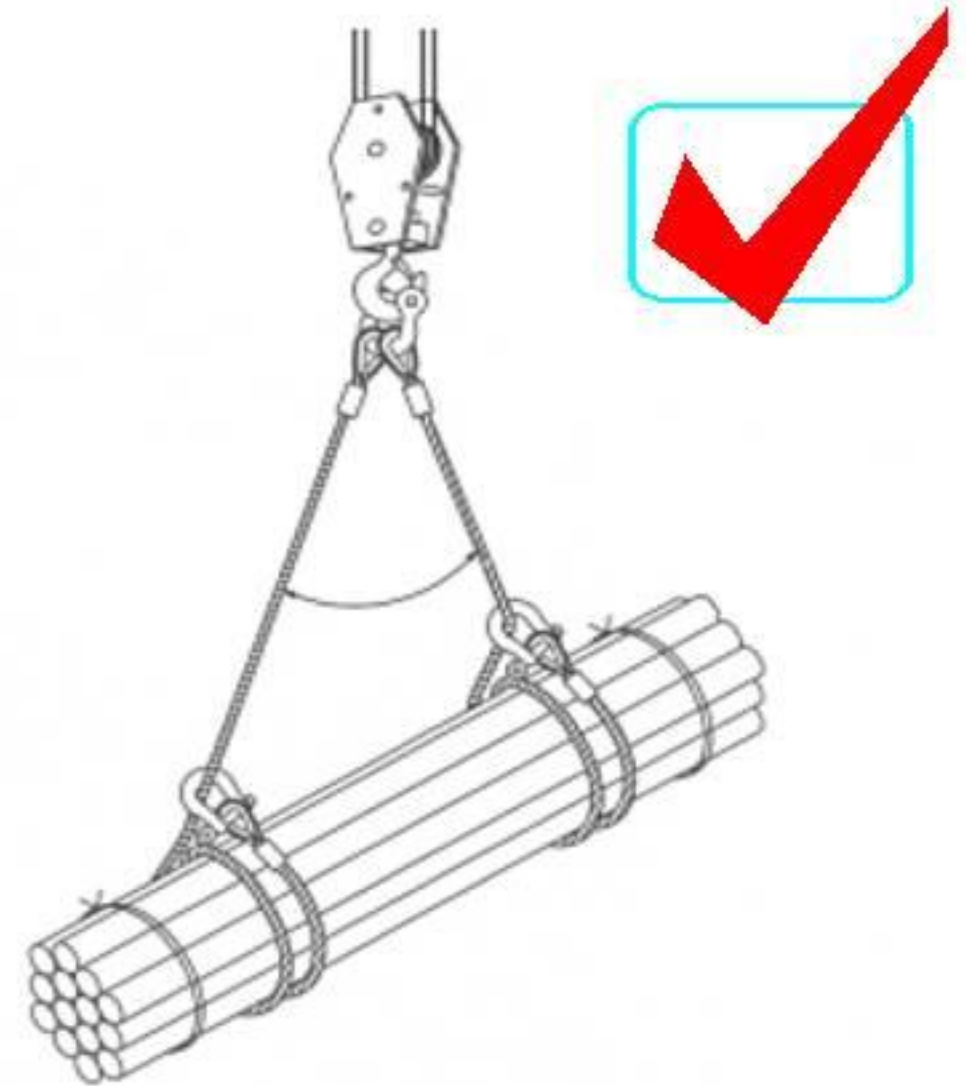
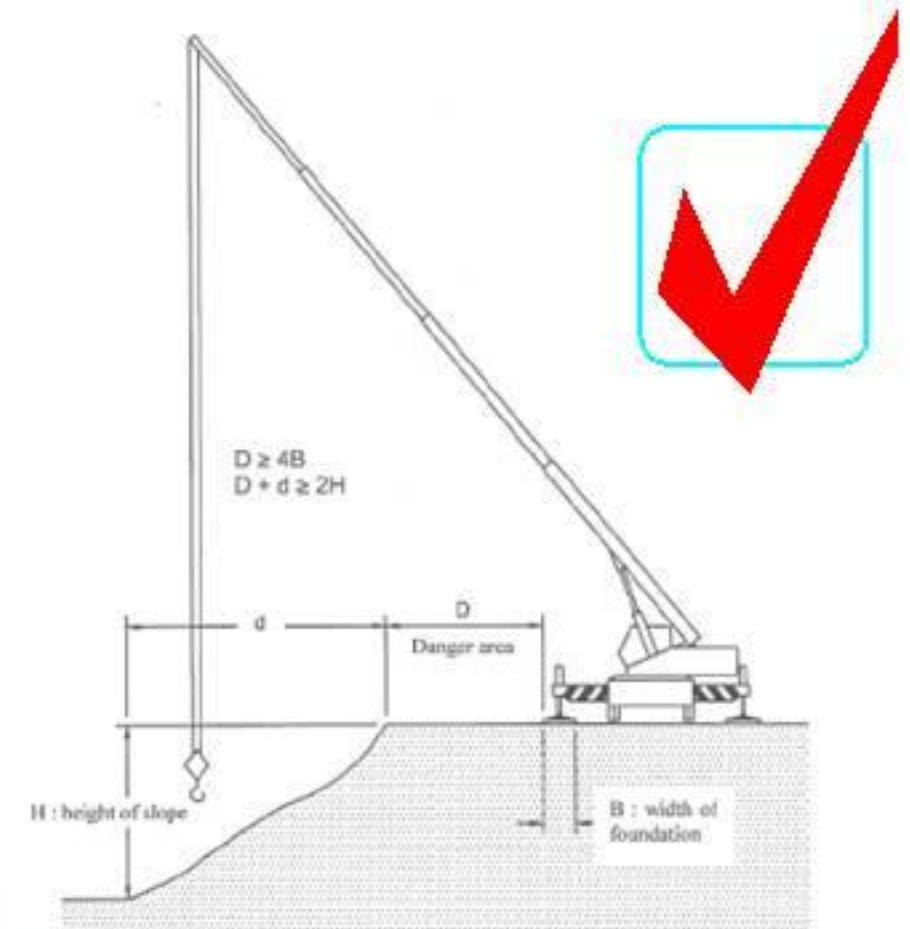


圖 16 兩條單支腳吊索以雙網扼索結法使用



Mobile cranes were found sitting too close to the edges of soil excavation

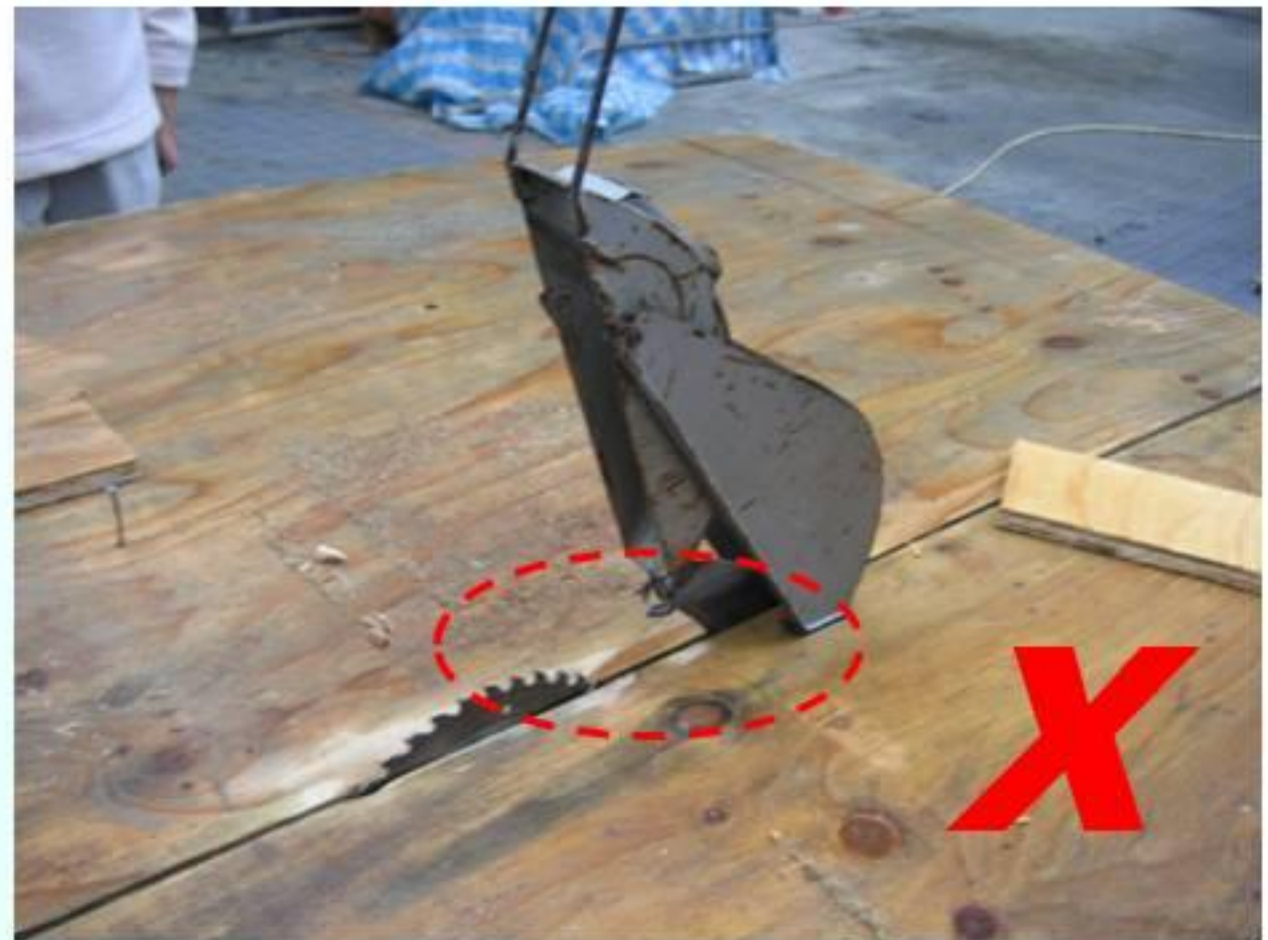


A safety distance at least 4 times the width of the foundation (the mat or timber blocking of the outrigger or the crawler) should be maintained between the foundation and the edge. (Paragraph 9.2.10 of Code of Practice for Safe Use of Mobile Cranes)



Distance of riving knife $>15\text{mm}$ from the saw

The riving knife shall be maintained as close as practicable to the saw and be so positioned that the distance between the front edge of the knife and the teeth of the saw does not exceed 15 mm.





Welding in designated location with screen & exhaust



Access ladder to excavation





Equipment





Electrical Work

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Pay For Safety - Safety Innovative

- Encourage safety innovation
- Max. 2 innovative items in safety aspect
- PFS HK\$ 10,000. per item
- ASA's nomination and ISAS Management Office's approval



Example: [Annex 3- Summary of Recommendation-Action Plan.doc](#)



Notes to Control & Supporting Document in SMS

- Maintain most updated version of control document
- Revised according to the site progress & activities
- Control document should be clearly documented in safety plan
- The records/appointment letter etc. used as supporting documents for safety audit should be the same as documented in safety plan
- Safety training record, safety working procedure, inspection record should be aligned with arrangement in safety plan, risk assessment results & method statement.



Example of Control Document

Section No. 11
Accident and Dangerous Occurrence

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Accident Investigation

In safety plan stated investigation should be carried out for accident or dangerous occurrence if the injury leave is more than 30 days. The requirement for prompt investigation was not mentioned in the safety plan.

- A total or partial collapse of any overburden, face, tip or embankment within a quarry.
- The overturning of, or a collision with any object by -
 - (a) A bulldozer, dumper, excavator, grader, lorry or shovel loader, or
 - (b) A mobile machine used for the handling of any substance in a quarry.

REPORTING PROCEDURES

Any serious injury or dangerous occurrence shall be reported to Contract Manager within 24 hours by Project Manager / Site Agent.

Procedure for reporting (Appendix 11/1, 11/2 and 11/3).

INVESTIGATION

- 3.1 Project Manager / Project Supervisor / Chairman of Site HSE Committee with assistant from HSE Officer shall carry out investigation for the accident / danger occurrence if the injury leave is more than 30 days.
- 3.2 Witness shall give a detail statement to HSE Officer.
- 3.3 Examine all evidence on the scene and take photo for record if necessary.
- 3.4 Determine the actual or detail the most probable cause of the accident.
- 3.5 Establish the cause of accident and recommend remedial action to prevent recurrence.



Example of Supporting Document

Accident Investigation Report

Some of the essential information related to the accident was missing, such as the type of shoes the worker was wearing, any witness, any cordon off procedure done when the formwork release agent was applied to the formwork.

Since the root cause of the accident was not identified in the report and the effectiveness of the preventive measures was in doubt.

*說明傷者當時正在進行的工作 State what the Injured Person was doing at the time :

The I/P was cleaning at the accident scene, the main corridor of Wing C&D, 15/F of Block 1.

請詳細敘述事故如何發生 Describe in **DETAILS** how the incident happened :

She slipped on the slab formwork at the accident scene and injured her left hand. She then went to United Christian Hospital for treatment by herself.

DETAILS OF INCIDENT 事故詳情

現場環境：Circumstances of incident scene:

1. No obstructions at the main corridor revealed by the I/P at the accident scene.
2. At the time the accident happened, the main corridor was bare slab formwork without steel fixed on the top.

FINDINGS 調查發現

1. It was a rainy day on the day of accident.
2. Formwork release agent was applied on the formwork.

糾正行動 CORRECTIVE ACTIONS

1. During the construction of working floor, information/warning shall be given to workers about effect of adverse weather condition if possible.

建議預防行動 PREVENTIVE ACTIONS RECOMMENDED

1. During or after adverse weather, the workers on site shall be aware of the slippery floor especially on slab formwork with oily formwork release agent applied.

Example of Supporting Document

Risk Assessment

For dismantling of gondolas, the severity and consequence for all the hazards were rated level 1 (i.e. slight & improbable). The quality of risk rating is Unacceptable.

工程種類: 吊船拆卸
 修訂評估編號: 3
 編碼: 108
 工程經理姓名、日期及簽署: _____

程序	危害	受影響人士/物件	風險程度		優先次序	安全措施	負責人*	風險改善程度	
			嚴重性 X	可能性 =				嚴重性 X	可能性 =
1 將吊船放置在地面平頂地	1 吊船翻側 2 物料下墮		1	X	1	-	1	IV	1 X 1 = 1
2 切斷吊船上電源	1 絆倒 2 洩氣危險		1	X	1	-	1	IV	1 X 1 = 1
3 將吊船上之鋼索拆去	1 物料下墮		1	X	1	-	1	IV	1 X 1 = 1
4 將吊橋夾鉗上之鋼索及獨立救生繩拆去	1 物料下墮		1	X	1	-	1	IV	1 X 1 = 1
5 拆去梯架夾鉗	1 物料下墮		1	X	1	-	1	IV	1 X 1 = 1
6 包用吊車將吊船運離地盤	1 吊船翻側 2 物料下墮		1	X	1	-	1	IV	1 X 1 = 1

Example of Control Document

Risk Assessment

1. Risk assessment was not conducted by the risk assessment team as addressed in the safety plan.
2. No risk assessment and method statement conducted for specific operation.
3. Method statement was not developed based on the results of risk assessment and nothing on safe working procedure was mentioned.

Stability Levels					
B	4	10^{-2}	Probable	Will occur several times in the life of an item	
C	3	10^{-3}	Occasional	Likely to occur some time in life of an item	
D	2	10^{-4}	Remote	Unlikely but possible to occur in life	
E	1	10^{-5}	Improbable	So unlikely that occurrence may not be experienced	

Consequence:

Severity Categories	Category	Con- sequence	Degree	Description
I	I	1	minor	Functional failure of part of machine or process - no potential of injury
II	II	2	Critical	Failure will probably occur without major damage to system or serious injury
III	III	3	Major	Major damage to system and/or serious injury potential to personnel
IV	IV	4	Catastrophic	Failure causes complete system loss and/or potential for fatal injury

Fig. 1 Severity & Probability description

Consequence		Likelihood	
1 = Minor	2 = Critical	3 = Major	4 = Catastrophic
5 = Frequent	4 = Probable	3 = Occasional	2 = Remote
		1 = Improbable	

Fig. 2 Risk Chart

Risk Factor Number (Degree of Risk) = Likelihood X Consequence
 • The higher the number, the higher the risk and more safety precautions to be taken.

Priority :

Top (T) - Degree of Risk within the range 15-20
 Take action immediately and supervised by competent person

Medium (M) - Degree of Risk within the range 8-14
 Take action immediately

Low (L) - Degree of Risk within the range 1-7
 Action taken by regular arrangement.

Example of Control Document

Training Plan

Training did not specify the safety training topics for tool box talk, trade specific Training such as lifting, formwork erection, electrical installation, as well as high risk activity training and the trades need to be trained.

Safety and Health Training Plan (For the Period of Oct 2008 to Jan 2009)

Targeted Trainee (Position)	Training Course / Topic	Objectives	Training Provider	Proposed Training Time	Training Assessment (Test / Quiz)	Qualification Obtained
All Employees	Site Specific Induction Training	To understand the S&H Policy, S&H Structure and Management System, particularly site safety requirement and safety and health knowledge for the job.	S&EO, AS&EO	Oct 08 to Jan 09	Quiz	Nil
All Employees	Site Specific Induction Refresher Training	To remind S&H awareness and be informed of any changed in S&H issues.	S&EO, AS&EO	Oct 08 to Jan 09	Nil	Nil
Relevant Employees	Tool Box Talk	To advance the awareness and knowledge on S&H issues related to the job.	S&EO, AS&EO	Oct 08 to Jan 09	Nil	Nil
Relevant Employees	Trade Specific Training	To advance particular S&H knowledge and awareness toward the specific job.	S&EO, AS&EO	Oct 08 to Jan 09	Nil	Nil
Relevant Employees	High Risk Activity Training	To provide knowledge and instruction on the correspondent control measures so as to minimize residue risk.	S&EO	Oct 08 to Jan 09	Nil	Nil
All employees	Emergency Training	To make employees familiar with the emergency plan	S&EO	Oct 08 to Jan 09	Nil	Nil

Example of Supporting Document

Noise Assessment

Poor quality of noise assessment report as the calculation of noise level was wrong. Control measures were derived even the noise level was well below the action level in the report.

Item No. 項目號碼	Brief description of area/location machinery/plant activity/task 地區/地點 機器/廠房 活動/工作簡述	Noise level 噪音級數		Daily exposure period 每天暴露時間	L _{EP,d} dB(A) 分貝(A)	No. of employees exposed 暴露於噪音中的僱員數目	Description of ear protector (if provided) 描述聽覺保護器 (如有提供)	Description of demarcated ear protection zone (comment if not demarcated) 描述聽覺保護區的劃定 (若沒有劃定請評論)
		L _{Aeq,T}	L _{peak} (where appropriate 如適用)					
1	# D84 DRILLING MACHINE	76	—	8 hrs	78	2 person	3m ear plugs.	Ear protection should be worn within 6 m area.

General comments :

Ear Protector should be worn when working nearby the Machine.
1 1.



Example of Supporting Document

Inspection Report

In the Safety supervisor's daily inspection report Form, inspection items related to excavation and passenger hoist were left blank which should be checked and recorded. (on-site visit observed excavation work & passenger hoist in use.)

一般安全檢查 (請填上良好、滿意或欠佳) General Safety Check (G = Good; S = Satisfactory; P = Poor)	星期日 Sunday	星期一 Monday	星期二 Tuesday	星期三 Wednesday	星期四 Thursday	星期五 Friday	星期六 Saturday
土木工程 Earthwork :							
挖掘工程 Excavations		?					
坑槽 Trenches							
沉箱 Caissons							
隧道 Tunnels							
斜坡 Slopes							
其他 Others : 上落樓梯, 圍欄, 沙包及帆布							
起重機械及起重裝置 : Lifting Appliances and Lifting Gear							
起重機(例如: 塔式起重機、 龍門起重機、流動起重機等) Cranes (e.g. Tower Cranes, Gantry Cranes, Mobile Cranes, etc.)		S	S		S	S	S
絞車 Winches							
滑輪組 Pulley Blocks							
載人吊重機 Passenger Hoists							
物料或吊斗吊重機, 包括吊重機槽 Material or Skip Hoists, including Hoistway		S	S		S	S	S