

Safety Management of Site Practice in High Risk Activities

工地高風險工序的安全管理措施

Appraisal System for Tower Crane (TC) Operator 天秤操作員考評系統

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Background 背景

A fatal accident happened in 2008 on a HKHA Choi Wan Road Project.

源於一宗發生於2008年在房屋署彩雲路地盤的一宗死亡事故。



Background 背景

The deceased person was standing at the path of the lifting gear at G/F and hit by the lifting pulley block or lifting gear.

死者站在地面天秤吊鈎行經的路徑時，被移動的吊鈎或其鐵鏈索碰撞擊其頭及頸部。



Background 背景

The enhancement of tower crane lifting operation safety in HASAS 1.4 Version starting from 2009:-

2009年房委會安全稽核制度(1.4版本)對於天秤吊運操作安全的優化措施：

- Provision of video surveillance, audio-visual alarm device
提供影像監控，視聽警報裝置
- Cordoning-off lifting zone
圍封吊運區



Objective 目標

To monitor Tower Crane Operators' competency and safety performance with an established assessment plan

設立一個評估計劃以監測天秤操作員的能力及安全表現。



Appraisal System for Tower Crane Operator

天秤操作員考評制度

Criteria 準則



Appraisal System for Tower Crane Operator

天秤操作員考評制度

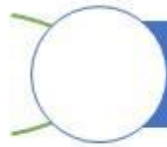
Standards of Assessment

評估標準



Appraisal System for Tower Crane Operator

天秤操作員考評制度

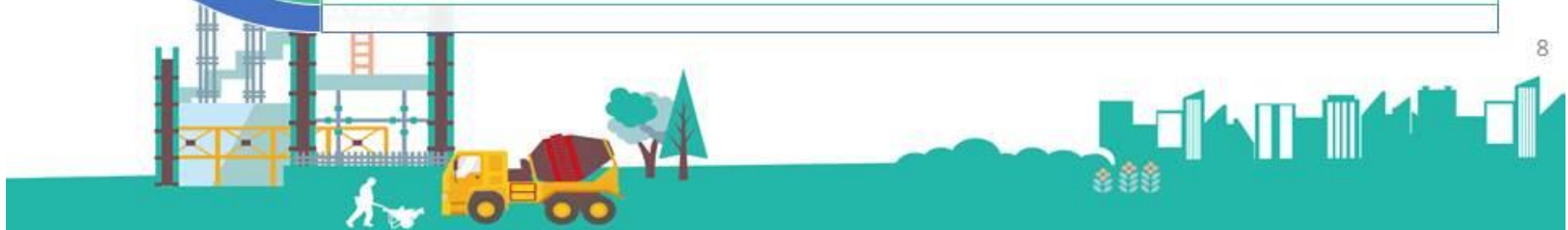


Proper Caring 基本操守習慣

Daily Maintenance 日常保養

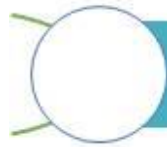
Report of abnormal condition 報告異常情況

Stability of control 穩定操作



Appraisal System for Tower Crane Operator

天秤操作員考評制度



Right Skill 正確安全技術

Stability of lifting 穩定起吊

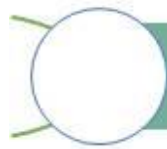
Beware of collision 提防碰撞

Control of hook and jib movement 吊鉤及吊臂控制



Appraisal System for Tower Crane Operator

天秤操作員考評制度

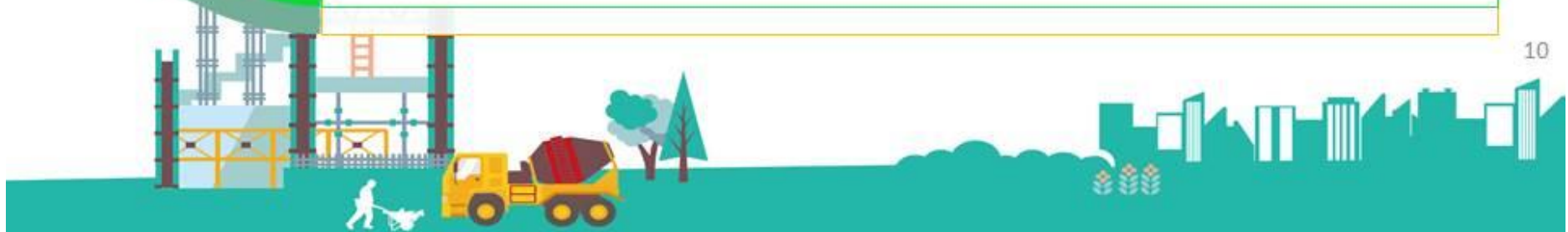


Reliability 守則責任及信賴

Self-control 自控

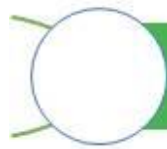
Power of refusing danger instruction
有能力拒絕危險指示

Practice under adverse weather condition
惡劣天氣下的行動



Appraisal System for Tower Crane Operator

天秤操作員考評制度

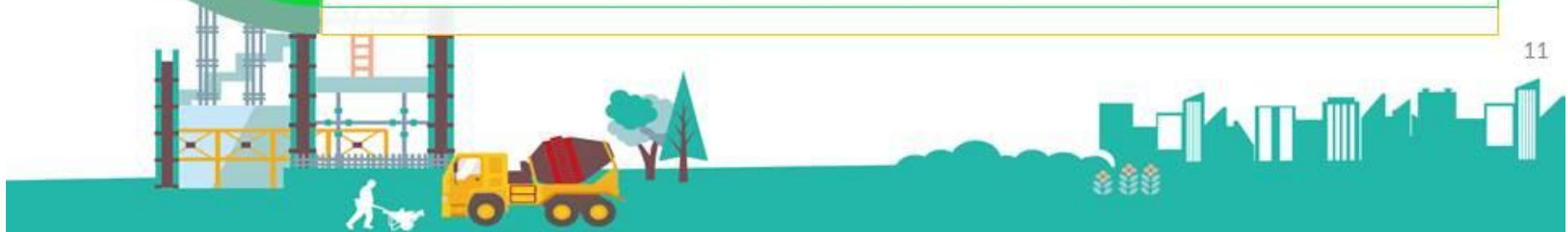


Safe Attitude 安全審慎態度

Adoption of safe operating speed
採用安全操作速度

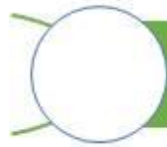
Effectiveness of communication with signaler / rigger
與訊號員/埋碼員作有效溝通

No lifting when unsafe rigging observed
危險埋碼不起吊



Appraisal System for Tower Crane Operator

天秤操作員考評制度

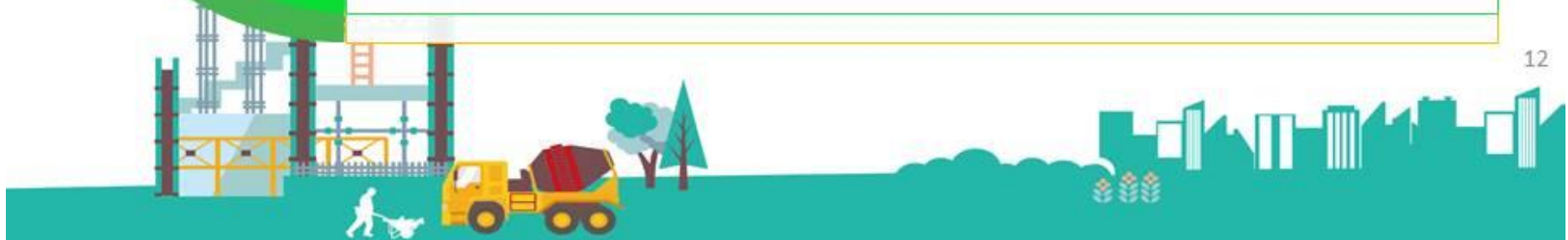


Rule Abiding 嚴格禁忌遵守

No overhead trespass 吊運不經人徑

No towing of lifting materials 不拖拉吊運物

No bypass / interference of tower crane safety device
(overloading / anti-collision)
不干擾安全裝置(超重/防撞)



Appraisal System for Tower Crane Operator 天秤操作員考評制度

Appraisal Process 考評進程

Assessor 評估員

Competent Person in Tower Crane (TC) with over 15 years TC operating experience

超過15年經驗的合資格資深天秤操作員

Time 時間

Consists of 3 random assessments for 1 complete appraisal period (3-month)

於1次考評期(3個月)內進行3次隨機評估

Venue 地點

On-site 1-hour continuous assessment

在工地進行連續1小時的評估



Here is the footage of
Site Safety Forum 2018 for Works Contracts and Property Services
Contracts

which was held on 3 July 2018

The speaker comes from
Hanison Construction Company Ltd
Assistant Safety & Environmental Manager
Mr. Vincent Pang Man-shek

His topic is

Safety Management of Site Practice in High Risk Activities
Appraisal System for Tower Crane Operator

(00:31)

Distinguished guests
representatives of all industrial participants

Good afternoon

Thanks to the Housing Authority
and my company for giving me this opportunity
represent my company

to have a short sharing of today's theme

Today, we prepared to present
our corporate management system
on tower crane operation
that is about the Appraisal System
for Tower Crane Operator

Let me introduce the background information first

Why is this appraisal system formed?

It is originated from a fatal accident ten years ago

That was a fatal accident at Choi Wan Road

a Housing Department Project

This accident was related to

a lifting operation of tower crane

After the accident, our company

had conducted a series of investigations
Based on the objective evidences
one of the major possible causes of accidents
was that the deceased person
was standing at the path of the lifting gear at G/F
when the lifting pulley block was lowering
The pulley block hit the head and neck
of the deceased person leading to the death
In the investigation, one of the key points was placed
on the tower crane operator
We did interview the workers who had worked
within the working zone before or after the incident
and other personnel who had participated in the process
From the objective evidences
we noted that some behaviour of the crane operator
during his daily operation involved unsafe action
and caused this accident

In addition, we also reviewed
the Housing Authority Safety Audit System
Version 1.4 issued in 2009
It stated the safety requirements of
the lifting operation of tower crane
which included the provision of
video surveillance system on crane
and also audio-visual alarm device in the lifting zone
which include a visual warning
that you can see the flashing lights
in order to strengthen the safety of the lifting area

With this background
our company started to promote the appraisal system
for tower crane operator in 2009
with the objective to monitor
tower crane operator's competency and safety performance

with an established assessment plan
Regarding the tower crane operator
we would assess the competency
and safety performance of the tower crane operator
The following are the most important criteria
for this appraisal system
There are four major directions

The first is consistency, that is
we will use this set of appraisal system
no matter in 2009, 2015 or today in 2018
using the same reference

The next is fairness
the assessment would be carried out
by representative of our mechanical department
and Safety & Environmental Department

It will not be carried out by colleagues on site

Regarding the practicality

we devised a set of objective assessment method
It doesn't require the assessor to stand for a day
to observe the practice of tower crane operator

"Practical" is one of the criteria

The last criteria is transparency

we will upload all ratings and performance of
the same tower crane model

onto our company's intranet

to allow each site management

to review the operation of tower crane operator

past performance record

can help assignment of future crane operation work

We have five major evaluation criteria

I will briefly introduce them point by point

The first is basic operation practice

It's about the daily maintenance of the cranes
by the tower crane operators

including whether they had performed
the daily checking in accordance with the checklist
reporting abnormal condition
such as when the crane performs differently
for example, during operation
when the crane does, inspection is required
In addition, stability of operational control
should also be included

The second criteria is on the right skill of safe operation
including attention to the daily operation of the tower crane
especially at the lifting up stage
we find that the risk is relatively high
Hence we will focus on the stability of lifting
Besides, beware of collision
Most tower crane accidents occurred
when the objects hit the ground or the projection on roof
This will also be reviewed
including the control of hook and jib movement
Regarding the self-control ability of tower crane operators
will his performance be affected by the hot weather
or by others' irritation
Will that cause abnormal behaviour?
One important point
whether he has the ability
to stop the danger operation
For example, when the rigging is not up to standard
Can he have the power
to instruct the rigger to rectify it before lifting?
Besides, his performance under adverse weather condition
will also be reviewed
Will he stop the operation in heavy rain and strong wind?
Does the operator have good safe attitude?
Can he keep a safe operating speed daily?
Does he have effective communication

with the signaler and the rigger?

We will keep watching on the ground

Also mentioned earlier

In case dangerous rigging occurs

we will see whether the tower crane operator

will suspend the lifting operation

Finally, rule abiding, especially on high risk activity including the lifting zone

That is, no overhead trespass should be allowed

In addition, we may observe that

some tower crane operators

for a load of materials

which has not yet been lifted up

will drag the load on the ground for a short distance

We will also monitor this behaviour

Finally, there are many safety devices on the crane

such as overload or anti-collision system

We will check whether the operator

will interfere with these systems or bypass these systems

For instance, turn off the safety system

for their own convenience

We should not allow such act

Finally, introduce the appraisal process

We will assign an experienced colleague

of the mechanical department as the assessor

He should have more than 15 years

tower crane operating experience and maintenance

We will also assign a site personnel and an officer

from the headquarters' safety department

to carry out the appraisal together

The appraisal period will last for one quarter

including 3 random assessment, i.e. once per month

We will not inform the site in advance

In terms of time
we will conduct an on-site continuous assessment
for one hour
to observe whether the tower crane operator
can fulfill the standards I have just mentioned
for obtaining a fair score

This is the sharing for today
about the appraisal system of our crane operator
I hope my sharing has inspired you
and suit your company
Hope you will promote this good practice in the industry
You may try to adopt this method
Thank you

Any question from Mr. Chan please?
I just introduced a series of standards
for tower crane operators
there are 15 sub-items
Please state one of them
Five main points, each with three categories
Just one of it
I hope everyone would remember any one point
15 points may be too difficult
Anyone would try?
Please hand the microphone to that gentleman
Stability of lifting
Yes, that's right
I mentioned about the lifting process
The process of lifting up is at the highest risk
Therefore this is one of our appraisal criteria
Thank you

Thank you for watching
(10:40)