



中國建築工程(香港)有限公司
CHINA STATE CONSTRUCTION ENGINEERING (HONG KONG) LTD.

外租與分判商起重機械 安全管理分享

中國建築工程(香港)有限公司
安全環保部副總經理
何志偉博士
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外租機械事故分享

- 一部外租起重機在垂直吊運一條藏在圓通內的工字鐵時，起重機單頭威也突然斷裂，導致威也連起重機蝦頭墮下，幸未造成人員受傷





地盤外租與分判商 起重機及打樁機安 全監管辦法



地盤外租與分判商起重機及打樁機 安全監管辦法

目的：

- 加強對地盤外租與分判商起重機及打樁機安全監管
- 明確使用前資料審批、首次使用前檢查及日常監管要求
- 確保起重機及打樁機纜索、安全裝置及現場設置正常運作



地盤外租與分判商起重機及打樁機 安全監管辦法

- 重點內容
 - 入場前，必須提前至少2個星期提交《外租與分判商起重機及打樁機入場使用前審批資料表》
 - 入場日期前至少3天，地盤安全部通知相應的監管組織安排檢查員在機械入場時到現場進行首次使用前檢查
 - 機械部每月到地盤進行不少於1次的起重機及打樁機纜索、安全裝置及現場設置檢查



- 起重機使用年期不可超過15年，如超過期限需額外提交全面檢查和大修報告，並由機械部進行場外檢查
- 在地盤停放使用時間超過2周的貨車式起重機需進行資料審核及每月由機械部進行定期檢查



- 檢查員資歷要求
 - 熟悉起重機械並有最少10年以上的相關工作經驗；或為機械部工程師/管工級或以上；或持有建造業技能測試合格證明書(建造機械技工)，並有最少4年相關工作經驗
 - 熟悉安全法例並持有安全督導員證書



外租與分判商起重機及打樁機入場使用前審批資料表

甲部 (申請：由地盤填寫)			
監管組織： 機械部 / 基礎機械部		日期： _____	
1. 起重機械基本資料：			
機械類型：	履帶式起重機 / 輪胎式起重機 / 打樁機		
擁有性質：	分判商起重機械 / 外租起重機械		
機主：	_____	分判商：	_____
生產商：	_____	生產年份：	_____
機械型號：	_____	自編號：	_____
機械噸數：	Hr. _____	底座哩數：	km _____
2. 預計使用日期資料：			
預計運抵地盤日期：	_____	年	_____
預計組裝日期：	由 _____	年	_____
預計使用期間：	由 _____	年	_____
3. 在用纜索資料：			
主纜索直徑：	mm _____	產地：	_____
輔助纜索直徑：	mm _____	產地：	_____
尾鈴纜索直徑：	mm _____	產地：	_____
主纜索已使用時間：	_____	個月	_____
輔助纜索已使用時間：	_____	個月	_____
尾鈴纜索已使用時間：	_____	個月	_____
其他纜索資料： _____			
4. 其他資料：(除原廠手冊外，請提交副本。)			
原廠操作及保養手冊：	有 / 沒有 (如果沒有，不可在地盤使用。)		
最近一次大修日期：	_____ 年 月 日		
最近一次大修報告：	有 / 沒有 (機齡超過 15 年機沒有，不可在地盤使用。)		
最近一次維修及保養日期：	_____ 年 月 日		
最近一次維修及保養報告：	有 / 沒有 (如有，請提交副本。)		
最近一次驗機日期：	_____ 年 月 日，驗機表格：二 / 三 / 四 / 五		
最近一次驗機證書：	有 / 沒有 (如果沒有，不可在地盤使用。)		
最近一次的使用用途：	吊運 / 開夾 / 打樁 / 鑽樁 / 磨樁 / 震錘 / 打錘 / 其他： _____		
5. 備註欄：			

註：地盤必須提前至少 1 個星期將相關文件交相應的監管組織；
請圈出合適選項；若有其他相關資料提供，請清楚正確書寫在備註欄內；
如果不適用，則在欄內填寫 NA。

地盤經理：	_____
地盤名稱：	_____
日期：	_____

抄送：地盤安全部

■ **起重機械基本資料**

- 機械類型、機主、生產商、分判商、機械型號、生產年份、機械時數、底座哩數

■ **在用纜索資料**

- 主纜索直徑及已使用時間
- 輔助纜索直徑及已使用時間
- 尾鈴纜索直徑及已使用時間

■ **其他資料**

- 原廠操作及保養手冊
- 最近一次大修日期和報告
- 最近一次維修及保養日期和報告
- 最近一次驗機日期和證書
- 最近一次使用用途



外租與分判商起重機及打樁機檢查表

地盤名稱: _____ 日期: _____

機械型號:	自編號:				
生產商:	機主:				
項目	檢查內容	良好	需維修/ 整改	不適用/ 未能檢查	備註
1	纜索(主纜索、輔助纜索及尾鈴纜索)				
1.1	主纜索狀況				
1.2	主纜索直徑				
1.3	輔助纜索狀況				
1.4	輔助纜索直徑				
1.3	尾鈴纜索狀況				
1.4	尾鈴纜索直徑				
1.5	吊臂拉索狀況				
1.7	制動器				
1.8	威也夾碼				
2	機架				
2.1	制動器及離合器				
2.2	威也尾固定栓及套筒(檢查)				
2.3	機索鼓				
2.4	螺栓及固定栓				
3	纜轆(滑輪)				
3.1	軸套及軸承				
3.2	纜轆(滑輪)槽位				
4	吊鉤				
4.1	安全扣(鴨脷)				
4.2	軸承(啤吟)運作狀況				
5	安全裝置				
5.1	操作及超重顯示器				
5.2	頂咭				
5.3	角度限位裝置				
5.4	安全負荷自動顯示器				
5.5	轉盤警示燈號及響號				
5.6	外間警示燈(三色燈)				
5.7	緊急停止掣				
5.8	擋風玻璃				
5.9	倒後鏡				
5.10	照明燈				
5.11	掃尾桿				
5.12	後視 CCTV				

■ 纜索(主纜索、輔助纜索及尾鈴纜索)

- 主纜索狀況及直徑、輔助纜索狀況及直徑、尾鈴纜索狀況及直徑、吊臂拉索狀況、制動器、威也夾碼

■ 纜筒

- 制動器及離合器、威也尾固定栓及套筒(槍套)、纜索鼓、螺栓及固定栓

■ 纜轆(滑輪)

- 纜轆(滑輪)槽位、軸套及軸承

■ 吊鉤

- 安全扣(鴨脷)、軸承(啤吟)運作狀況

■ 安全裝置

- 操作及超重顯示器、頂咭、角度限位裝置、安全負荷自動顯示器、轉盤警示燈號及響號、外間警示燈(三色燈)、緊急停止掣、擋風玻璃、倒後鏡、照明燈、掃尾桿、後視CCTV



外租與分判商起重機及打樁機檢查表(續)

項目	檢查內容	良好	需維修/ 整改	不適用/ 未能檢查	備註
6	現場設置				
6.1	擺位情況				
6.2	圍封情況				
6.3	支重腳液壓檢筒及泵芯[如適用]				
6.4	支重腳焊接及結構部分[如適用]				
6.5	支重腳底墊[如適用]				
7	其他				
7.1	每日開工前自檢查記錄				
7.2	每月保養檢查記錄				
7.3	法定表格一				
7.4	法定驗機證書				
7.5	操作及保養手冊				
7.6	擺放位置書面評估報告[如適用]				

可否使用該機械	需維修或整改詳情
<input type="checkbox"/> 可 <input type="checkbox"/> 否	

註: 1. 本表格適用於外租或分判商履帶式起重機、輪胎式起重機、打樁機、或長時間在地盤內停放並使用的貨車式起重機(預計停放時間超過 2 個星期);
2. 所有檢查項目必須全部符合要求方可使用該機械, 否則不得使用;
3. 填妥的表格應交地盤經理簽名確認, 副本交地盤安全部存檔備案。

■ 現場設置

- 擺位情況、圍封情況、支重腳液壓積筒及泵芯[如適用]、支重腳焊接及結構部分[如適用]、支重腳底墊[如適用]

■ 其他

- 每日開工前自檢查記錄、每月保養檢查記錄、法定表格一、法定驗機證書、操作及保養手冊、擺放位置書面評估報告[如適用]



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多謝

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

China State Construction Engineering (Hong Kong) Ltd

Deputy General Manager of Safety &
Environmental Protection Department

Dr. Ben Ho Chi-wai

His topic is

Safety Management on lifting appliance
rental and supplied by sub-contractor

(00:30)

Good afternoon, I am very pleased that
the Housing Department has invited me
to share about safety management

The topic today is

How does our company use the lifting appliance rented
or owned by subcontractors?

What are our corporate requirements
on the safety management of these appliances?

Let's share it here

I want to share with you an accident
happened on our site before sharing

In this accident, a sub-contractor's
rental lifting appliance was involved

At that time, it was lifting an I-beam
inside a pipe vertically

The lifting steel wire suddenly broke during the lifting

The lifting wire and the hook fell together

Fortunately, no one was injured in this accident

We would like to share our post-incident analysis here
You may think that this rented appliance was very old
This was not correct

The manufacturing date of this crane was 2013
not too old

For this construction site
about one month before the incident
a registered professional engineer had visited the site
to test the appliance and conduct a thorough inspection
Valid statutory Form 3 and Form 5 were also issued
Afterwards, I also went to the site
to investigate whether the incident involved
any failure of appliance or overload

Both were not found

Let me tell you

This site was very close to the sea

We found that the steel wire on the lifting appliance
aged faster generally than those on other sites offshore
We also noted that the surface of the wire rusted quickly

So after this accident

Our company had developed a management approach
about how to supervise the use of appliances
owned or rented by subcontractors

Our company uses our own appliances

because our company has
our own mechanical department

Supervision of the use of appliances
is very comprehensive

Our company has started to lay down the requirements
of rental appliances for sub-contractor

What are the requirements for the crane?

We have developed a management approach

The purpose of this management approach
is to strengthen our supervision

of the lifting appliance or piling rig
rented or owned by the subcontractors
The main supervision spirit is that
before the machinery is used on site
all the information about that appliance
should be clearly presented and submitted
for approval by the site management
After the appliance is assembled
in addition to the completion of statutory tests
and thorough examinations
pre-use checking should be conducted
to make sure the appliance
is in good working condition on site
The other important point is to ensure
the wire safety devices of the cranes and piling rig
and the setting are all in correct order before operation

The key content has been mentioned
We would request each subcontractor to submit
the information and record of rented appliance or piling rig
at least two weeks before admission to site
This involves an information table
I will show you the table again
After the site management
has approved the machines' report
we will then arrange
to inform corresponding supervision team
before the machines being admitted to site
The safety department will inform
our company's mechanical department
to arrange designated personnel
after installation of the machine on site
to carry out the first pre-use inspection of the machine
After the first operation of the machine on site
The mechanical department would arrange

monthly inspection on
wires safety devices and on-site installations
I would also like to mention that
lifting appliances or piling rigs
either by rented or owned by subcontractors
shall not be used for more than 15 years
If the service age was exceeded
extra comprehensive inspection
and overhaul report are required
Moreover, our mechanical department
would be invited to conduct an off-site inspection
To ensure this overhaul report
is in line with corporate standard
this 15-year overhaul requirement
is also in line with that of the Housing Department

As for the lorry-mounted cranes
if it would be used on site for a long time
more than two weeks
this management approach would apply
As for the inspectors sent by our mechanical department
to the site to check the rental appliance
or the rental lifting appliance or piling rig
The inspector should be familiar with lifting appliance
and possess at least 10-year relevant working experience
or should be a mechanical engineer
or a foreman level or above
holding a certificate for
construction plant mechanic skilled trade test
by Construction Industry Council trade test
also known as the Construction Plant Mechanic
with at least four-year relevant working experience
The inspector should also be familiar with the law
and hold a safety supervisor certificate

We have just mentioned
before the machine is allowed to enter the site
the site must ensure that
the basic information of the machine
lifting wire or other information are complete
Basic information includes the model, manufacturer
subcontractor, mechanical model number
year of production, mechanical service hours, etc.
In addition, some useful data of main wire
auxiliary wire and control wire
As well as the maintenance records of machines
the mechanical operation manual, etc.
The whole set of documents should be checked
and approved before being operated on site
After the machine installation has been completed on site
In addition to the statutory tests and thorough inspections
which are conducted by registered professional engineers
Before the use of the machine on site
the inspectors of our mechanical department will check
the wire, the warping drum, the sheave, that is, the pulley
and related hooks, safety devices
and their on-site locations
and enclosure, extension of outriggers
and the statutory forms
to make sure everything is in place
then the machine can be officially operated on the site
As mentioned earlier, the used machine
will be checked by the Mechanical Department
They will go to the construction site
and check the contents of the checklist
at least once a month

Finally, let me introduce the main point to everyone
That is, when our mechanical inspection personnel
going to the construction site

to inspect the wires of these cranes
They will release the wires from the warping drum
and conduct a visual inspection and a measurement
This is the end of my sharing
Responding to the host's request
to ask everyone a question
As I have mentioned earlier
our company uses rented machines
that is, cranes or piling rigs
Over certain service age, overhaul records
for the machine would be required
How long is that service age?
The service age is aligned with
the requirements of the Housing Department contract
This gentleman right there please
15 years
I love challenging the audience
as I did in the previous years
Give you one more chance
15 years
No more challenge now
You are correct
Thank you
This is the end of my sharing
Thank you

Thank you for watching

(09:15)