



工程和物業管理 工地安全研討會 2018

Site Safety Forum for Works Contracts and
Property Services Contracts

PEOPLE-CENTERED ACCIDENT PREVENTION

Session B –
Maintenance &
Improvement Works and
Property Management



關愛由心做 安全無煩惱
Caring from the Heart Safety Habits at Ease

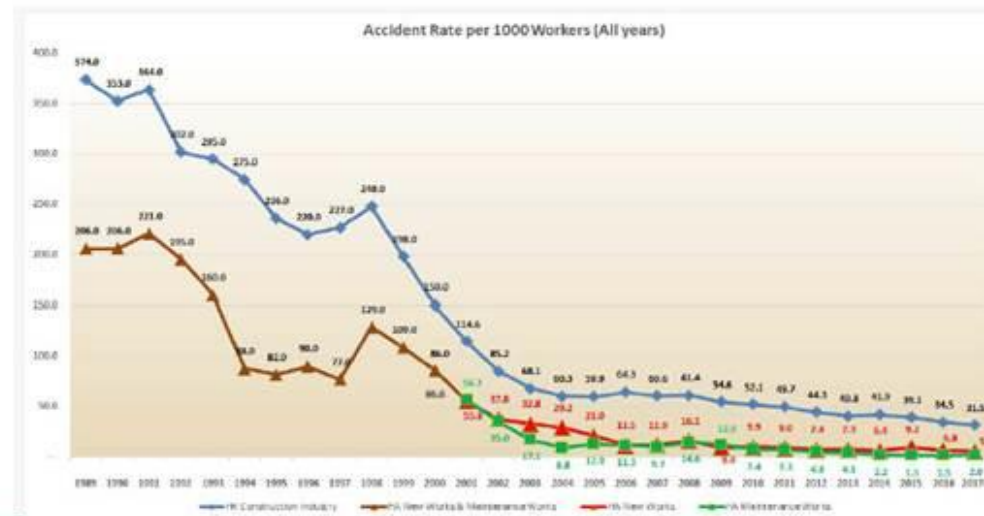
香港房屋委員會
Hong Kong Housing Authority

職業安全健康局
OCCUPATIONAL SAFETY & HEALTH COUNCIL



Comparison with 2016 and 2017

	Numbers of Accident cases in 2016	Numbers of Accident cases in 2017	Changes In number of cases
HA Maintenance Works	5	13	+8

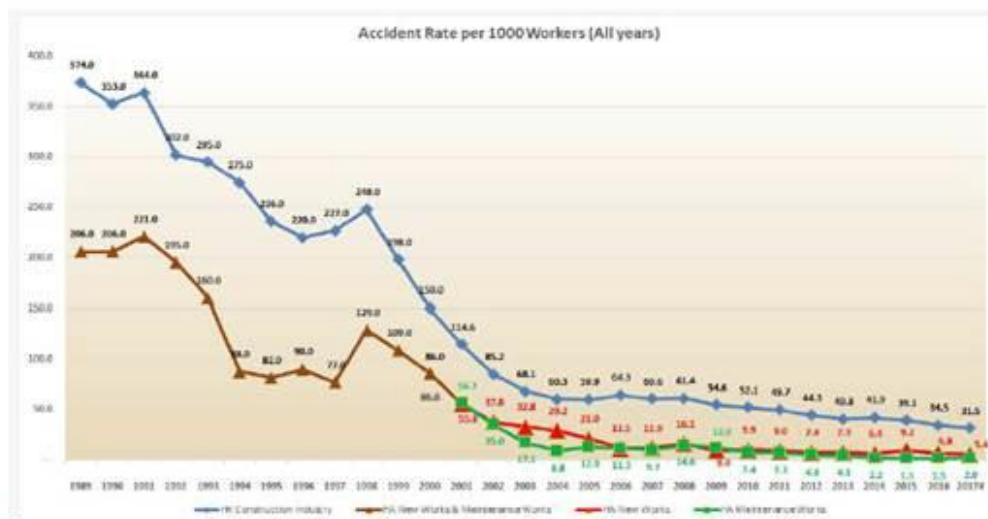


關愛由心做 安全無煩惱
Caring from the Heart Safety Habits at Ease



Natures of Accident

Total No. of Accidents	Unintentional nature	Others
13 (100%)	9 (69%)	4 (31%)



關愛由心做 安全無煩惱
Caring from the Heart Safety Habits at Ease



Unintentional Nature

進行打拆石屎工序時，懷疑意外地滑倒受傷。

收翻新工程後，行出走廊後手扶門邊準備將門關上，有一陣強風影響令木門加速關上，其左手無名指被夾傷。

僱員正把工具箱放於地面，不慎手指被壓傷。

從貨車上落位置拖一些工程物料到斜坡腳，途中行近閘門位置，因踏到膠袋滑到地上，臀部落地。

工人正移除被壓著的木方，被木方壓傷加手無名指及尾指。

工人在前往工地途中意外滑倒。

以手拉出薄木板時，意外地震跌了於天花燈上的玻璃片，擊中傷者的右手，並割傷大姆指即時流血。

搬運英泥時懷疑左腳背舊傷口被英泥沾染，引致細菌感染。

更衣時不慎被鋁板壓傷右腳小腿。

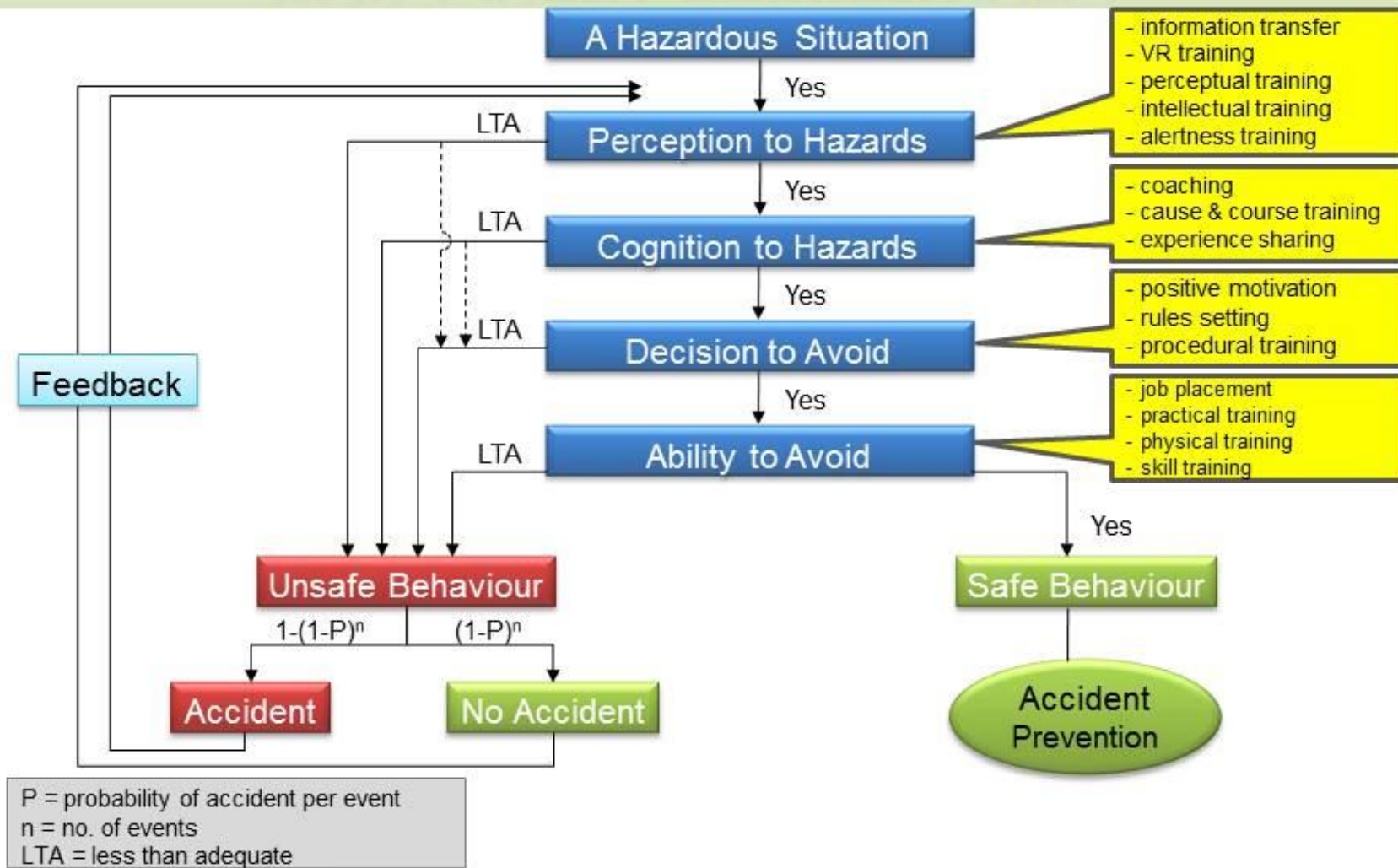


People-Centered Approach

- Human Error – a nature of Mankind
- Occurs at any time and in any situation
- Control at design and planning through respective management approaches
- Reduction by (Sanders, 1987):
 - Training approach
 - Selection approach
 - Design approach



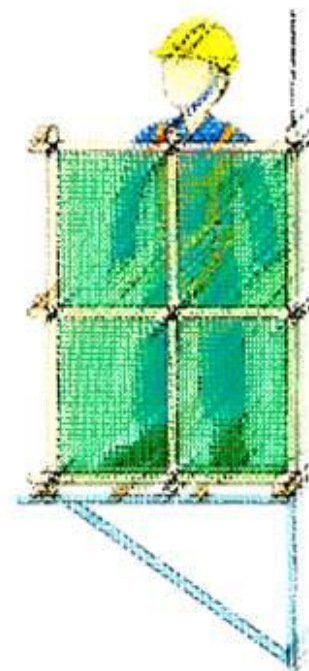
HUMAN AWARENESS MODEL (思維認知模型) IN ACCIDENT PREVENTION



關愛由心做 安全無煩惱
Caring from the Heart Safety Habits at Ease



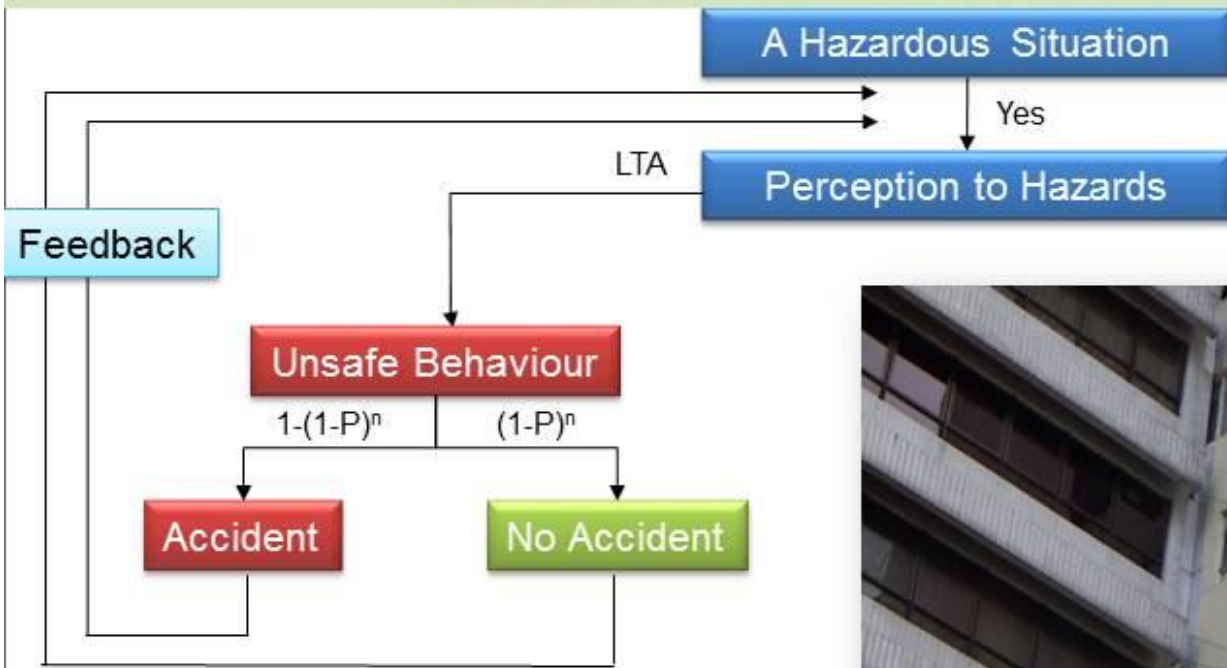
A Case Analysis



A truss-out
Scaffold

關愛由心做 安全無煩惱
Caring from the Heart Safety Habits at Ease

HUMAN AWARENESS MODEL (思維認知模型) IN ACCIDENT PREVENTION

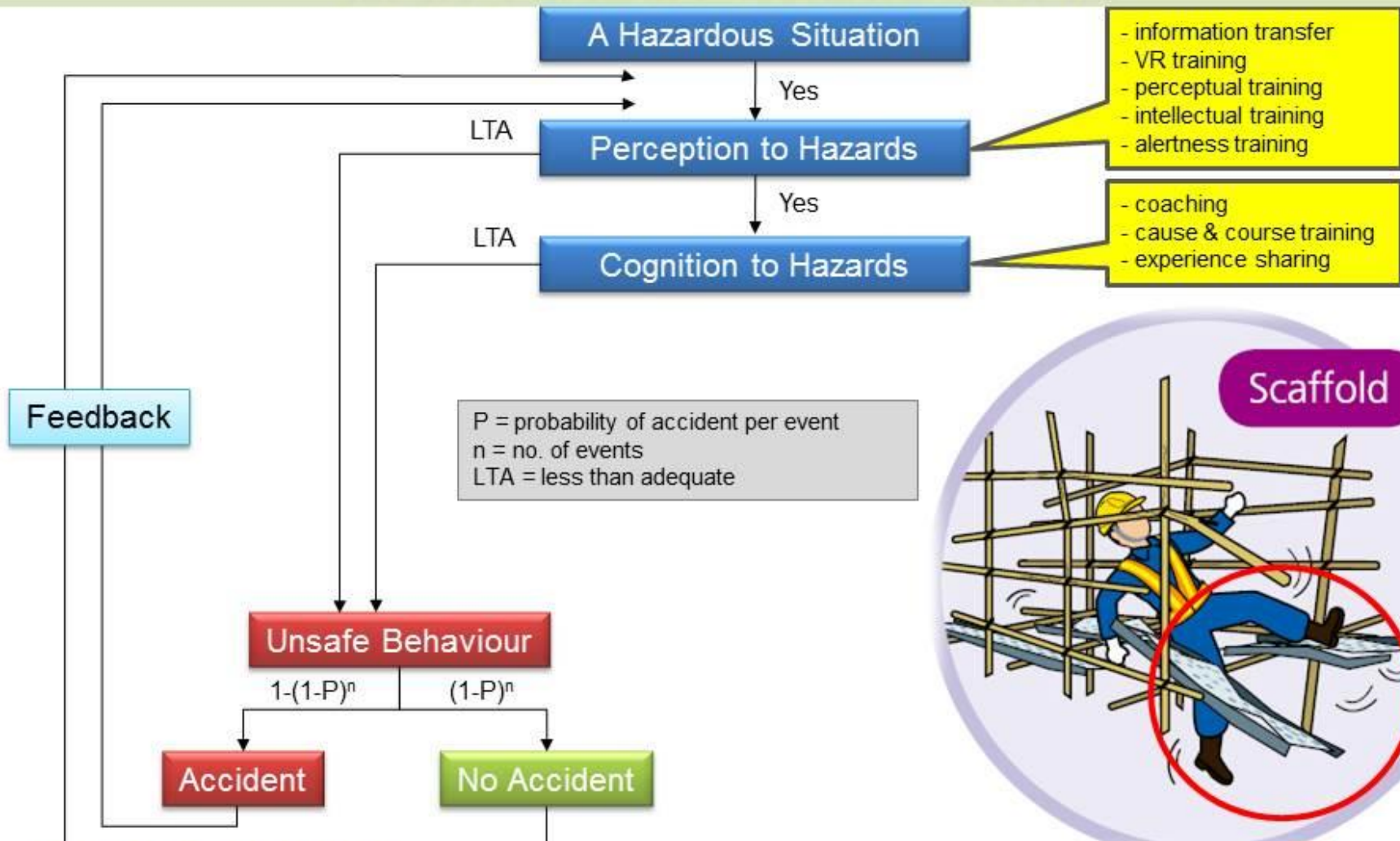


A single bracket supported truss-out scaffold.

P = probability of accident per event
 n = no. of events
 LTA = less than adequate

關愛由心做 安全無煩惱
 Caring from the Heart Safety Habits at Ease

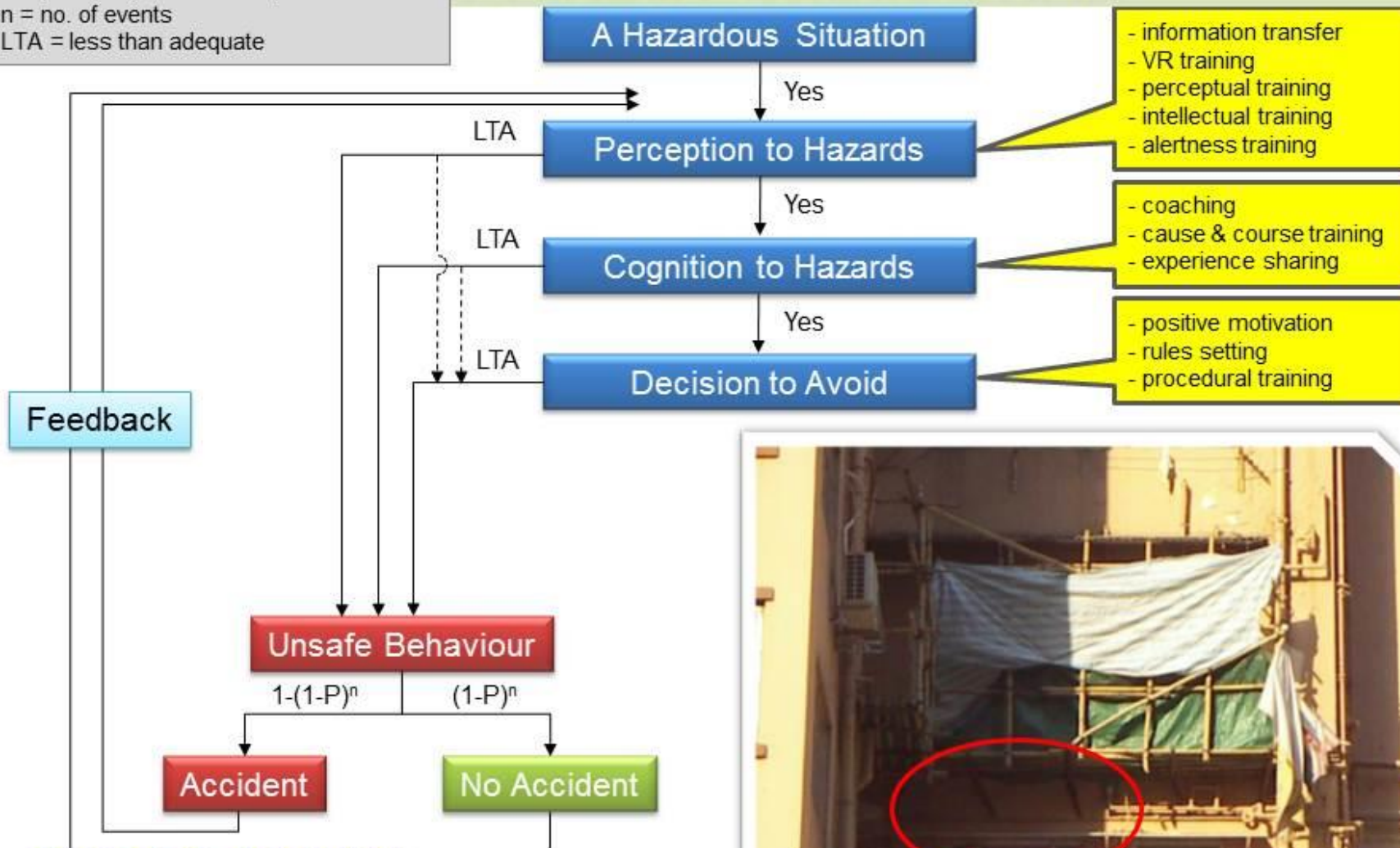
HUMAN AWARENESS MODEL (思維認知模型) IN ACCIDENT PREVENTION



關愛由心做 安全無煩惱
Caring from the Heart Safety Habits at Ease

HUMAN AWARENESS MODEL (思維認知模型) IN ACCIDENT PREVENTION

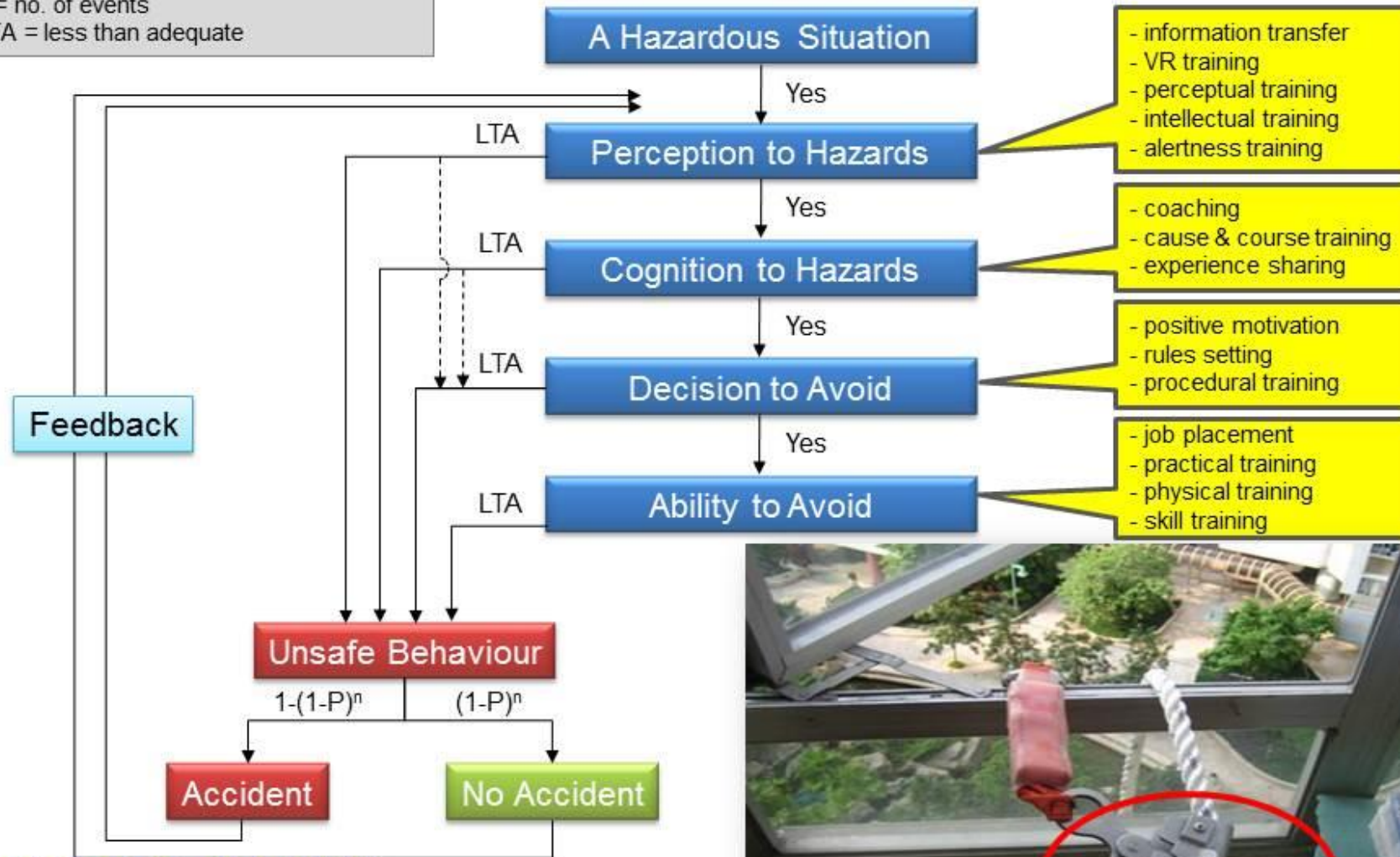
P = probability of accident per event
n = no. of events
LTA = less than adequate



關愛由心做 安全無煩惱
Caring from the Heart Safety Habits at Ease

HUMAN AWARENESS MODEL (思維認知模型) IN ACCIDENT PREVENTION

P = probability of accident per event
n = no. of events
LTA = less than adequate



關愛由心做 安全無煩惱
Caring from the Heart Safety Habits at Ease

HUMAN AWARENESS MODEL (思維認知模型) IN ACCIDENT PREVENTION



Controls:

- Mandatory Basic Safety Training
- Induction training
- Virtual Reality training



關愛由心做 安全無煩惱
Caring from the Heart Safety Habits at Ease

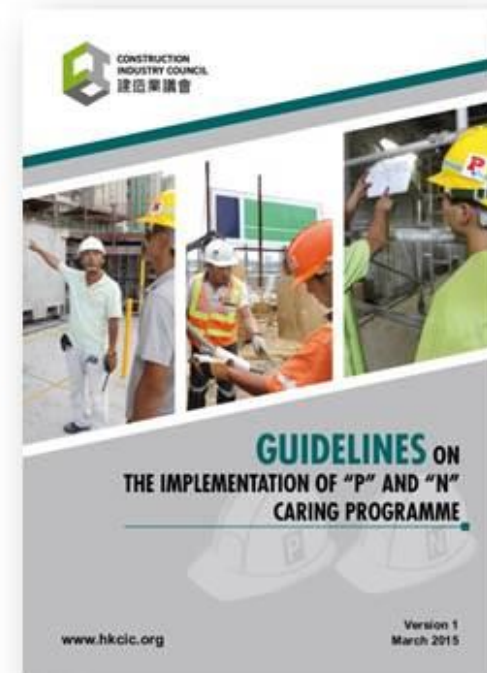
HUMAN AWARENESS MODEL (思維認知模型) IN ACCIDENT PREVENTION



Controls:

- P & N Workers' Caring program
- Job specific training (e.g. Certificate Course in Safety at Work for Repair, Maintenance, Alteration and Addition Works)
- Tool box talks

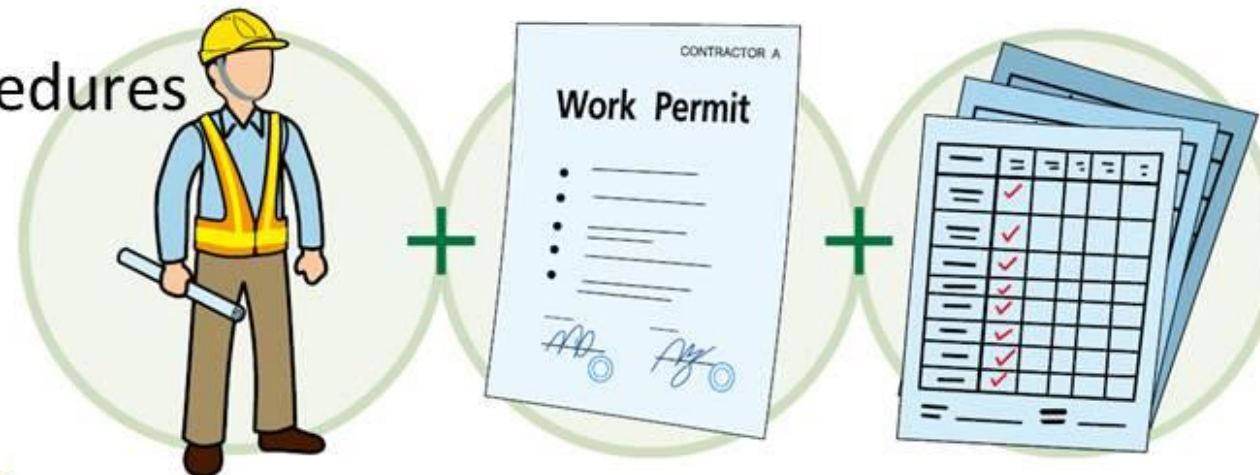
關愛由心做 安全無煩惱
Caring from the Heart Safety Habits at Ease



HUMAN AWARENESS MODEL (思維認知模型) IN ACCIDENT PREVENTION

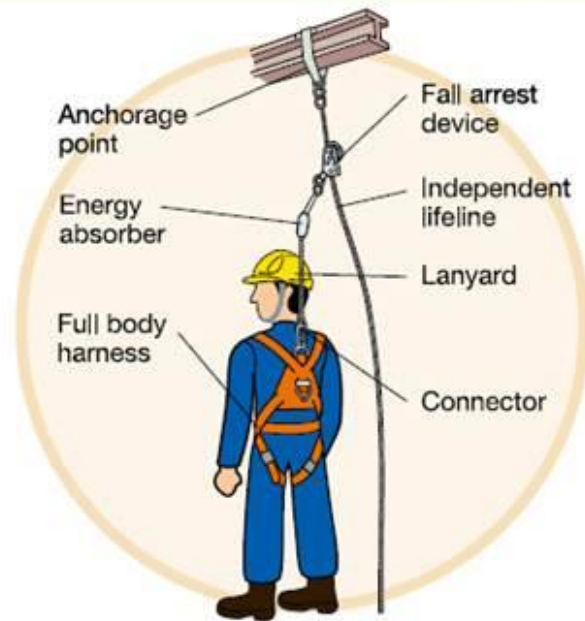
Controls:

- Safety promotions
- Incentive scheme
- Safety ambassadors
- Rules and procedures



關愛由心做 安全無煩囑
Caring from the Heart Safety Habits at Ease

HUMAN AWARENESS MODEL (思維認知模型) IN ACCIDENT PREVENTION



Controls:

- Practical training
- Skill training
- Job placement

關愛由心做 安全無煩惱
Caring from the Heart Safety Habits at Ease





What does Caring Culture Work?

- Management caring about employees,
- Employees caring for each other and for customers,
- Everyone caring about the company's goal, and,
- Unity gives strength and growth.



關愛由心做 安全無煩惱
Caring from the Heart Safety Habits at Ease



How to make the changes more effective?

- From “Risk-taker” to “Contributor”
- A “T-A-C-T-I-C” approach



關愛由心做 安全無煩惱
Caring from the Heart Safety Habits at Ease



Timely 及時

- A timely appreciation of the correct behavior makes people know reasons why they earned appreciation.





Authentic 真摯

- People must be praised repeatedly when they are being observed steadily with good safety performance
- Constant recognition improves **internal, unobservable changes** in people creating a greater sense of **ownership** and **pride**



關愛由心做 安全無煩惱
Caring from the Heart Safety Habits at Ease



Customised 個人化

- A generic recognition fitting anyone in any situation reflects no sincerity.
- Recognition should be customised linking personal achievement.
- Try to recognise the “Particular Person” for the “Particular Safe Behaviour”.



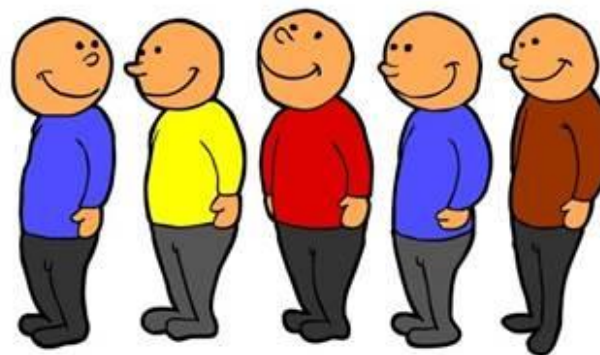


Tension Avoidance 減壓

- “public-labeling” may discourage others who feel they did equally but not being praised
- Deliver clear message that recognition is a **continual process** to those whose safety performance well exceeds the basic requirements.



關愛由心做 安全無煩惱
Caring from the Heart Safety Habits at Ease





Internalized 內心化

- Allow sufficient time for employees to have the recognition be internalized and becoming part of the **enjoyable personal memory** that can maintain a long-term **self-motivation** for safe behaviour





Characterised 特徵化

- Characterising the recognition statement with sense of **honour**, **trust-worthiness** or **active caring**
- Linking worker's safe behaviour with **positive personal achievement** and **excellence**



關愛由心做 安全無煩惱
Caring from the Heart Safety Habits at Ease



Safety begins with US

Thank You



關愛由心做 安全無煩惱
Caring from the Heart Safety Habits at Ease

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 is Mr. Alvin Yu Yiu-kwong
His topic is
People-Centered Accident Prevention
in Maintenance Works and Property Management

(00:25)

Good afternoon

Almost to the end of the forum

Let me go through my slides, I hope you would
pay attention to my presentation

If you have any questions, please write them on
the question sheets and pass it to me after my sharing
I will definitely ask you questions. I have two quotas
and will continue to give out the gifts

This is the results

the Assistant Director of Housing has already
shown in his presentation

But I would like to interpret

the result from another point of view

There were 13 accidents in the maintenance works
of the Housing Department in 2017

I classified these 13 accidents into two categories

The first category occurred unintentionally

The other incidents were under “the second category”

I observed that the unintentional accidents
amounted to 70% of the total

What are unintentional accidents?

They were mainly due to

forgetfulness and loss of attention

In summary, these are human errors

70% mean approximately 9 incidents

What kinds of accidents were they?

Under time constraint, I will explain them to you quickly

One accident happened when the worker was about to close the door after completion of works the wooden door was suddenly shut by a gust of wind pinching the finger of the worker

In the second accident

a hand of the worker was crushed by a toolbox when he put it down on the ground

The third accident involved breaking of the ceiling light when pulling a timber board

The glass of the ceiling light cut the worker's finger

The fourth accident involved slipping when removing concrete

In the fifth accident, the right leg of the injured was crushed by an aluminium plate when changing clothes

In the sixth accident, the finger of the injured was crushed by a timber batten when he moved it

The seventh accident was slippage on plastic bags when handling material on lorry

The eighth accident was due to slippage on the way to the construction site

In the last accident, it was suspected that the existing wound on the left foot of the injured was infected by falling cement

All of these accidents are basically caused by human errors

What is human error?

Human error - a nature of mankind
human always makes mistake

We can't explain under what circumstances
wrong doing would occur
it would occur at any time in any situation
I wonder whether you have any experience
that you press the wrong button in the lift
and such situations often happens
Conclusively, how can we solve this problem?
We usually adopt management approach
in design and planning
to reduce the opportunity of human error
Some scholars have also proposed
how to reduce human error
through the following three approaches
The first one is by training, to let the workers familiarize
with the environment and work process
The second one is by selection approach
to select a right person who is familiar with the issue
to carry out the work
For example, people who couldn't control their temper
are not suitable for certain tasks
then they should not be appointed to do so
The third one is by design approach
to stop the operation when people do wrongly
or when the machine malfunctions
The above are the three approaches

Now I would like to introduce
a thinking cognitive model that seems complicated
The idea is that when a person makes a wrong act
it could happen in the blink of an eye
However, it involves many
different processes in the brain
The first level is the perception of the hazard itself
Does he know the danger?
He would continue to work

if he does not know the danger
The second level is
the understanding of the hazard itself
even when the hazard occurs
What is the cause of the danger?
When would it happen?
The third is when I know the cause of danger
I need to avoid it
but is my decision correct?
If my decision is incorrect
the accident will still happen
Finally, if I know that I have the right decision
whether I have the ability to solve the problem
or at the end it still cannot be resolved?
To understand why a person
was injured due to human error
We must be people-oriented
understand what has happened
and in which way this problem can be solved

I would like to share an incident
you might have seen these incidents
Please take a look at this truss-out scaffold
on the external wall of the building
You may not notice any problem
If you were the maintenance worker
walking out this truss-out scaffold
can you notice the danger?
It was supported by a single support
I might say I don't know as I am a user
Here is the problem
When I went out and worked on this truss-out scaffold
without knowing the danger, accident might happen
Secondly, even if I knew it was
erected with single support

Would I know what's wrong with a scaffold
with a single support?

Would it fall down? Finally it collapsed

So I don't know the problem of the truss-out scaffold
with a single support and go out to work

Then the accident would still happen

Thirdly, the risk avoidance decision

a truss-out scaffold with a single support is unstable

So I need to install a few triangular angled frames
to support at the bottom

Let's look at this photo which was however not very clear
because of the sunshine

Can you notice that these two triangular angled frames
on the left side of the truss-out scaffold were tilted

Can you notice this?

Why were they tilted?

As there was a water pipe

the frames were too long to be installed

However they knew it's unsafe to have single support
so decided to install a tilted frame

The strength was insufficient

I made a decision to solve the problem

but actually I couldn't solve the problem

Finally, I knew that the truss-out scaffold
with a single support was unstable

so I put on a safety harness

Do you notice any problem

with the safety harness in this photo?

The problem was that the safety harness
was worn wrongly in a reverse direction

It would slide down when I fell
and it would not lock

This is the risk avoidance ability

Now I know why people are in trouble
We must know the root cause
Tracing the source is our most basic requirements
Firstly, how to solve the problem of human cognition
everyone knows many methods in the industry
including the most basic safety training such as
mandatory basic safety training (green card)
or induction training
Even the more popular virtual reality training
Some video modes are used
to explain what is dangerous
This can help to show what probable problems
would be encountered at work
The second is the cognition of hazard

How to solve this problem?
You may have heard about the caring programme
construction workers newly arriving at site
and workers newly joining the construction industry
For them we adopt a new approach
They will be mentored by experienced workers
In addition, this allows more observation
before assigning a suitable job for a worker
There is a job-specific training to teach
new workers how to do the work
OSHC has a safety course
on repair and maintenance work
There are also regular toolbox sharing sessions
Today we have shared a lot of construction accidents
As for decision-making
people have certain knowledge
but sometimes they may forget
Through safety promotion activities
reward programs, safety ambassadors
or by setting up rules

procedures, construction methodology
we can supervise workers' behaviour
to prevent wrongdoing
People make mistakes
Finally, the ability to avoid, how to solve this problem
We would have practical training
to teach them how to do it
In addition, we would conduct technical training
and another one is by job matching
Some workers' personality might not be
suitable for certain work
You need to know
how to choose a right worker for a job
The so-called "traceability" means that
you must know well about the worker's problem
how to teach them to truly solve the problem

So now, how does the caring culture help on this issue?
It's very simple, a company is an organization
and an organization has a management level
If the management cares about their staff
and every staff cares about their colleagues
care about each other
just like what Nice Property Management Limited does
This will turn the company into one whole
This one whole will concern about the company's goals
to achieve the safety goal
What can unity do?
A company, an organization
a force, a development to move forward

It should have ended here, but I can't help sharing more
In fact, how can we help a person
to have a positive development?
We develop the T-A-C-T-I-C approach

The first one is T which means “Timely”
meaning when a staff does a good job
remember to present an appreciation
for the right act immediately
the staff would learn that
good behaviour would be appreciated

The second one is A which means “Authentic”
We need to let our staff know
their good safety performance
would be praised not only once, but continuously
Constant commendation to staff
would help building up the sense of belonging
As the staff understand that their good behaviour
would be recognized every time
With the encouragement
the staff would continue to perform well
As everyone wants to be commended
and feels proud of themselves

The next one is “Customized”
it means it will take some time
to make the appreciation personal
Don’t make an insincere commendation
It’s useless to say “well done” generally
Too general
You must tell the staff what they have done right
So that the staff would know their good behaviour
would be commended
Most importantly is to let them know
the commendation is linked to their good behaviour
Tell the staff why they are commended
This “Customized” is very important

The next one is “Tension Avoidance”

This is actually a problem

Colleagues sometimes all work together in a team and find that you have performed very well and commend you

The commended staff would be very happy

However have you ever thought

that the commended staff will be under pressure?

Don't forget that other staff

may have the same job performance

Other staff may feel why only that staff is praised?

Why don't you praise me?

We need to be aware of this issue

Hence, at the time of commendation

Pay attention!

Tell the staff that the rewards are not one-off

As long as staff continue to have good behaviour and safety performance

The commendation practice is always there

Every staff will have the chance

In addition, "Internalized"

We need to allow time for the staff to adopt to the new culture

Put the commendation in your heart

After work, I would think about

the commendation from the supervisor

I would be really happy

When these gradually internalize

they would become enjoyable memory

This kind of memory will become the self-internalised for continuing to do safe behaviour in the future

Finally, I want to share “Characterized”

In addition to rewarding the staff for doing well

we also need to honour them
with trust and caring
the staff would understand safe behaviour
In fact, it is good to be related to people themselves
High quality, forming a sense of pride
Everyone can use T-A-C-T-I-C Approach
to reflect the positive direction of individuals
allowing them to improve continuously
Keep doing good behaviours
This is the end of my sharing

Though I spoke a little bit fast
I still want to ask one question
I have two coupons
The question is
how does “Unity” benefit an organization?
Bring strength and development
Yes, correct
The last question
when and how would human error occur?
I can't see who is faster
This gentleman, please
It may happen at any time or in any situation
Good, correct
Thank you

Thank you for watching

(15:03)