

Here is the footage from “Site Safety Seminar for Capital Works New Works Contracts”, which was held on May 12, 2014

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His presentation topic is “Dismantling of Material Hoist and Use of Builder’s Lift”

Hi everybody. Let me introduce myself first. I am KC Chan from Hanison Construction Company Limited, responsible for safety and environmental protection. Today I would like to share two cases with you. I hope the industry and colleagues of safety monitoring can make reference to the cases to prevent future occurrence at site.

The first case is an injury taking place at a builder’s lift on a construction site, which was about to be demolished. The second case is an incident during the demolition of a material hoist. Though there was no injury, it could have been a serious one if it had happened.

Just as I said, the first case involved a builder’s lift. The incident took place a few years ago at a site. The injured worker alleged he was inspecting the builder’s lift before demolition or doing some preparation works. As you can see in the photo, it was quite frightening. Look, this is really a person, but he was like that at the time. It was serious when we received the message. Why would a person climb out of the falsework? He was at the level of about sixth floor of the site. You can imagine the consequence. He was frightened at that time. We would not provoke him also, lest he would really fall. He also tried hard to hold and protect himself. The incident was unpredictable. Do you think you could predict someone would climb out and hold the pillar in your risk assessment? We did not assess why he would climb out and hold the pillar. His ankle was injured. Inspections were carried out both by ourselves and an independent consultant.

A conclusion was arrived that he was injured by something horizontal with a pulley. The whole thing is the cable that runs the pulley and lever of builder’s lift. That means it was the whole cable with one side going up and the other going down. It brings the lift up and down. The cable is operated by electric powered pulley components. Now look at the scene. Look at the location he climbed. He must have been hurt by these. Referring to the next photo, we concluded that he must have been panicked and moved to the other side of the pillar. It was lucky that he knew where to

go. If he hadn't moved, he would have been struck and fallen when he could not withstand the pain.

Take a look at this. Here we can see the top of the builder's lift. As we look up, we can find the lift moving along the two sides of pillar. We concluded that he was lucky to feel hurt and go to this side. He yelled at that time and was heard by the operator of builder's lift. The operator wondered what's happening, and stopped the machine, leaving the worker stranded in that place. We guessed the builder's lift hurt him as it went up after him but he could not escape from it. He therefore climbed to the other side. As the lift was stopped and he held onto the pillar, everything was fine then. As I said, when our colleagues approached him, we tried not to further provoke him. We slowly raised the builder's lift and rescued him from the lift top. The cause was very straightforward, we didn't bother to investigate the "Root Cause". He alleged that he went to the lift top and climbed over the fencing for preparation work, Originally the lift top with a fence was safe enough. Secondly, we explored why the builder's lift operator let him climb to the top. He couldn't have accessed the top without opening up the top! Why did the operator let him go when the lift was moving and not yet demolished? Why did the operator keep the builder's lift running? All these indicate there were communication problems. Finally, we arrived at a conclusion. Was there a conflict between demolition and operation? Was there a lack of communication? Who allowed them to work in this way? It must have to do with the supervisor. And how about the safety officer? What is the role of the safety officer?

We studied the incident for a period of time. In the end, we arrived at the simplest conclusion. It was this operation key. The lid of lift top must be opened with a key. Who could have given him the key? And the operator allowed him to go up. We acknowledged that it was a huge mistake. Of course, training and risk assessment should have been carried out on every site by every colleague responsible for the safety before the incident. Then how do we assess the case?

In the end, our company did not investigate just one single case, but we called all the project managers, site managers and site agents from all sites. We also asked an independent consultant to conduct a workshop called "Hearts and Minds", involving many topics, such as humanity, behaviour and consciousness. We all participated in the evaluation and learning. It was a rare case that took place on one of the sites. We hope there will never be such a strange incident any more. This is the end of the first case.

The second case took place exactly when a material hoist was under demolition. As said this is called a near miss incident. It means though no people are injured, if there had been injury, that could have been a very serious one.

A 3-metre steel U-channel fell when a material hoist on the 26th floor was being demolished. This kind of incident which involved falling objects was serious. Many colleagues were involved, so we had a review afterwards. It might be luck, but we don't rely on luck. Now let's take a look.

The circled object is the 3-metre steel channel. It fell over here. Now look at the real scene. A colleague happened to be near the spot. It was really by sheer luck. Why did it fall? If it had struck someone, it could have taken the person's life. Now look at the 26th floor. This is where the incident happened. This vertical channel was linked to the concrete platform with a horizontal channel extending out on every floor. Nothing would happen if both the vertical and horizontal U-channel were removed together. If we look closer, we can find a crack of weld. It could be fine to remove hundred channels, but that particular one had this problem. You may query whether the welding should be periodically inspected. After the incident, we also consider if there is a need to check every joint. You may say it's troublesome or the procedure is too tedious, but it is worth the review. We still have to inspect anyway, without room for discussion.

You can see a rope being tied to the ground. It was tied to the ground, too. Just when you thought the whole rope was connected, the horizontal one went loose. Of course we did some preventive measures. I said it was tedious. You may wonder what made it so special that both the horizontal and vertical channels have to be tied to the ground during the material hoist demolition. Unless we need to make a hundred percent sure that every channel is safely demolished, but the incident proves that it is worth it. Though it is tedious, at least nothing happened during the following demolition work, after we did the preventive measures at that time. It is a chance for all of us in the industry to review the need of such procedure. However, after research this is the safest practice at the moment. We have also explored another question. Will sparks caused by welding damage the rope? If yes, we should be extremely careful. If the rope is broken, another problem arises. This is what those who monitor should pay attention to.

Another one is very easy to do. We always say that there are multiple factors in causing near miss incidents. Problem happened at the nylon mesh, which was lowered down for too much that it could not cover the subject floor and failed to prevent the

channel from falling out. If the mesh had covered well, the channel would have fallen inside the mesh. With this factor, it fell onto the street. The preparation work, especially the demolition procedure, is known as high-risk procedure. Still it is worthwhile to review the preparation and demolition work, even before and after the incident. We have worked on many construction sites. Why was there still an accident? The details are simple. The working procedures are practical and easy to follow. We need to strictly monitor the installation and demolition procedure. Otherwise, you may encounter these two incidents. I do not need to mention risk assessment and training because every company is doing them. Yet when it comes to training for installing nylon mesh, we always stress that frontline monitoring staff, not just safety officers but also every staff member, should beware of. Hope there won't be any more accidents like these two cases. This is the end of my sharing.