

***HOUSING AUTHORITY  
SAFETY AUDITING SYSTEM  
(HASAS)***

- *Safety Innovation*
- *Good and bad practices*

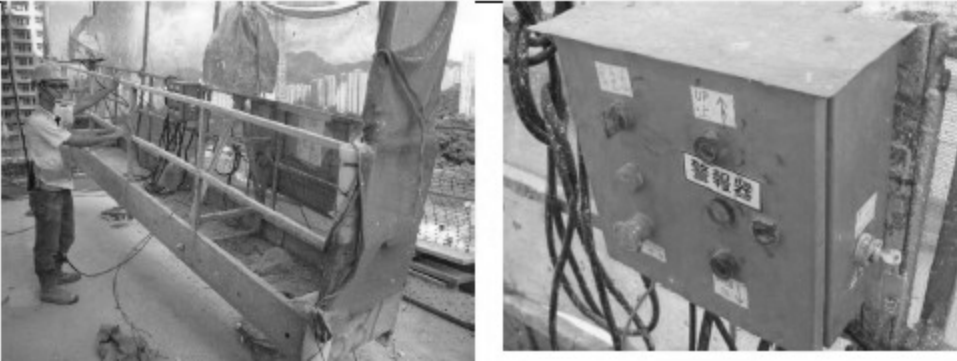
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# Safety Innovation recommended by the Safety Audit Management Office

Safety Innovations	Brief Description	Photo
Audio-visual alarm system for gondola operations	<p>The system could provide audio and visual warning to the gondola operators when the incline of the machine reached 10 degrees. Upon the activation of the alarm system, the automatic safety device would be applied to the gondola to prevent it from further inclining. Operators would then have to control and adjust the gondola to a balance and horizontal position. The design enhanced the safety of workers working on the gondolas</p>	 <p>The photo section contains two images. The left image shows a worker in a white shirt and dark pants standing on a metal gondola structure, which is part of a larger machine. The right image shows a close-up of a grey metal control panel with various buttons, switches, and a prominent warning sign that reads '警告' (Warning) in Japanese characters.</p>

CCTV system on mechanical plant

Mechanical plant such as excavator installed with CCTV system enable a safe movement of the plant particularly when reversing and slewing on site thus prevent serious accidents involving heavy plant in the construction industry.






Electrically Operated Steel Wire/Rope & Nylon Protection Net above Steel Bending Yard

The Protection net is electrically operated to protect workers in the steel bending yard against falling objects. It also helps to reduce heat stress.





Safety Innovations	Brief Description	Photo
Electric Hand Tools' Detector	The tool was designed to test the portable electric tools at site and identify the power tools with defects. The design could help improving the electrical safety at site.	 <p>The photograph shows a rectangular, light blue portable device with a carrying handle at the top. The front panel is silver and contains several controls: a green push-button at the top left, a black rotary switch in the top center, and a black speaker grille at the top right. Below these are three red push-buttons in a row, followed by three smaller buttons (green, yellow, and black) in another row. On the right side, there is a yellow protective cover for a 110V AC outlet and a red protective cover for a 1220V DC outlet. The device has various Chinese labels and safety symbols, including a warning sign and a recycling symbol. A red label at the bottom right identifies it as a 'portable power source' (携動式電池).</p>

<p>Portable platform ladder</p>	<p>A platform was available at the top of this ladder. Suitable guardrails and toe-board were installed at the platform. The use of this platform ladder enables to reduce the risk of falling from height.</p>	
<p>Mini-Fire Engine</p>	<p>The machine is designed to increase the pressure of water supply from the hose reel. The effective fire-fighting distance was increase from 15m to 40m by using the machine easily as push bar and casters were installed for the machine. The machine enables to improve the emergency response within the site in case of fire.</p>	

Exhaust gas purifier for cranes

Exhaust gases are piped into a purposely made vessel filled with water. The exhaust gas passes through the water before they are discharged. Dust and odour are thus significantly reduced. The design enables to improve the air quality for the health workers.



Reflective vest with cooling function

A piece of cooling material was attached to the reflective vest to reduce body temperature under hot weather. The Design helps to reduce the heat stress when carrying out physical activity at the construction site.





Wireless Reversing Video Device for Vehicles

The device is available at the site entrance for the drivers of incoming vehicles to use. The camera should be attached to the rear of the vehicle and the driver could view the back through the wireless display. The device could help reducing the risk of accidents involving reversing vehicles on the construction site.





Block Protective Screens


The screens are extra nylon netting provided on the external wall to prevent falling objects. It limits the path of the falling objects so that the objects would not fall outside the metal protective canopy. The screens could help reducing the falling objects within the site and the nearby public area.





Safety Innovations	Brief Description	Photo
Tally system for gondola operation	<p>‘Operator card’ is issued by the site office to the appointed gondola operator. Details of the operators are recorded on the card and the operators must put their cards on the notice board next to the gondola. Site management staff, safety office and foremen can monitor the gondola operation more effectively. In case of emergency, the operators can be contacted quickly by referring their phone number on the card. The system could help monitoring the gondola operation and maintaining efficient communication with the operators.</p>	

<b>Safety Innovations</b>	<b>Brief Description</b>	<b>Photo</b>
<p>Installation of remote CCTV surveillance monitor system onto material hoist</p>	<p>CCTV system was installed in material hoist for the supervisor to monitor the safe use of material hoist efficiently. Video was recorded for review when necessary. The system enhances the monitoring of material hoist operation. OSHC would recommend the design as a safety innovation.</p>	

<b>Safety Innovations</b>	<b>Brief Description</b>	<b>Photo</b>
<p>Provide noise enclosure for pile head breaking operation</p>	<p>The enclosure achieved a 6-10 dB noise reduction during pile head breaking operation. OSHC would recommend the design as a safety innovation.</p>	 <p>The photograph shows a large piece of yellow and black machinery used for pile driving. A yellow cylindrical enclosure is positioned around the pile head. Several vertical steel piles are visible, some being driven into the ground. The background shows a clear sky and some distant structures.</p>



Air pressured power grinder

The fine mist from the water sprayer installed in front of the grinder can help reducing the dust produced when grinding to improve the site hygiene. Air pressured power grinder is used to eliminate the electrical hazard. The Contractor is advised to ensure that the grinding wheel is not over-speeded by the air compressor. Besides, to prevent illness such as Legionnaires' disease, the water used for the sprayer must be kept clean and fresh, e.g. cleansing the water tank regularly.



Plastic Cushion for Piling Final Set Operation

The traditional metal cushion was replaced by the plastic cushion. The change could prevent flying objects; eliminate welding operations; reduce operation noise and manual handling operations.



In case of workers come to the back of the crawler crane within a distance of 1.5m, the sensors will send the received signals back to a alarm, which is installed inside at the front of the operator cabinet. A continuous audio sound will be activated and alert the operators that someone stayed at the back of the crawler crane. The operator can identify if there is any worker stayed behind the crawler crane within 1.5, through either the CCTV or communicated with banksman.



Put the device onto the bench saw as shown in photo [PH 01] and operate the bench saw as usual, no need to fix before use, the device will not cause any hazard or inconvenience, no power is needed for the device, its energy save.



PH 01 : The cover putting onto the bench saw