

29  
June  
2022

# WSH ALERT

## FATAL ACCIDENT

### Worker crushed between crane parts

On 22 June 2022, a worker was crushed between a mobile crane's undercarriage and its counterweights as he was retrieving items from a toolbox located at the crane's undercarriage. The crane was in operation at that time and it turned to the area where the worker was trying to open the toolbox. The worker was sent to the hospital where he passed away.



Overview of accident scene.

### Recommendations

Crane operations are high-risk activities. To prevent similar accidents, consider the following measures:

- **Lifting Plan (LP):** Ensure each lifting operation has an LP supported by an onsite risk assessment, a safe work procedure and a permit-to-work. The LP should indicate the safe positions where workers are to be in while lifting is in progress.
- **Lifting zone:** Mark the lifting zone clearly to prevent unauthorised workers from entering danger areas. Put up physical barriers and warning signs before the lifting operation begins. Only the lifting team (LT) may be allowed inside the lifting zone but in the designated safe position(s).
- **Independent lifting teams:** For concurrent lifting operations, assign independent and separate LT members for each crane in operation for better focus and to prevent criss-crossing of workers.
- **Safe toolbox location:** Relocate the toolbox away from the crane and lifting zone, if possible. If this is not possible, relocate the toolbox to a place on the crane where the crane operator can see, and where accessing the tools will not put the worker in contact with moving parts.
- **Hazard communication:** Conduct toolbox briefings before each lifting operation. Explain to workers the risks onsite and control measures in place. Instruct LT members to stay in their safe positions and never go near a crane that is in operation. Any movement towards a danger area may proceed only after the lifting supervisor and crane operator have been informed and the work situation made safe to do so.
- **Use of technology:** Explore the use of presence sensors and cameras to alert the crane operator of persons or obstructions in the vicinity.

For more information, please refer to WSH (Operation of Cranes) Regulations 2011, SS 536: 2008 Code of Practice for the Safe Use of Mobile Cranes and WSH Council's [Code of Practice on Safe Lifting Operations in the Workplaces](#).

\* Information on the accident is based on preliminary investigations by the Ministry of Manpower as at 27 June 2022. This may be subject to change as investigations are still on-going. Please also note that the recommendations provided here are not exhaustive and they are meant to enhance workplace safety and health so that a recurrence may be prevented. The information and recommendations provided are not to be construed as implying liability on any party nor should it be taken to encapsulate all the responsibilities and obligations under the law.

### Blown off container office kills worker within

On 30 April 2022, a worker died from head injuries after the 20-foot container office he was working in was blown off its supports by a gust of strong wind during heavy rain. The container office landed about 22 metres from its original location.

The container office had been placed on top of a 2.5-metre tall steel frame support structure.



Scene of the accident.

### Recommendations

Strong winds can cause devastating consequences. To prevent similar accidents, consider the following measures:

- **Safe design:** Engage a Professional Engineer to design the support structure for any mounted container. The raised container must be properly secured to the support structure (e.g. bolted down or using twist locks). The design of the container office and support structure should consider wind load and the possibility of upwelling wind current that can lift the container.
- **Regular inspection:** As part of preventive maintenance, visually inspect the container and support structure on a regular basis to ensure they remain safe for use. Raise any signs of defect, deformation or deterioration that can affect structural stability or integrity to management for follow up.
- **Weather monitoring:** Monitor the weather forecast for strong winds and heavy rain. Secure everything that can be blown off and prepare to stop work in the event of bad weather.

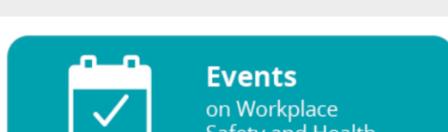
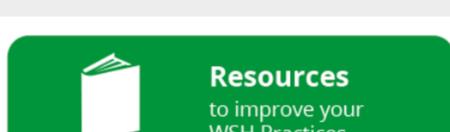
For more information, please refer to WSH Act 2006, Building Control Act 1989, and SS EN 1991 – Part 1-4: 2009 — Eurocode 1: Actions on structures – Part 1-4: General actions – Wind actions. Weather forecast and nowcast are available at <http://www.weather.gov.sg/home/>.

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