

Work At Heights Accident Case Studies and Learning Points



MINISTRY OF
MANPOWER

Choong Chang Thai

Occupational Safety and Health Inspectorate

7 Sep 2023

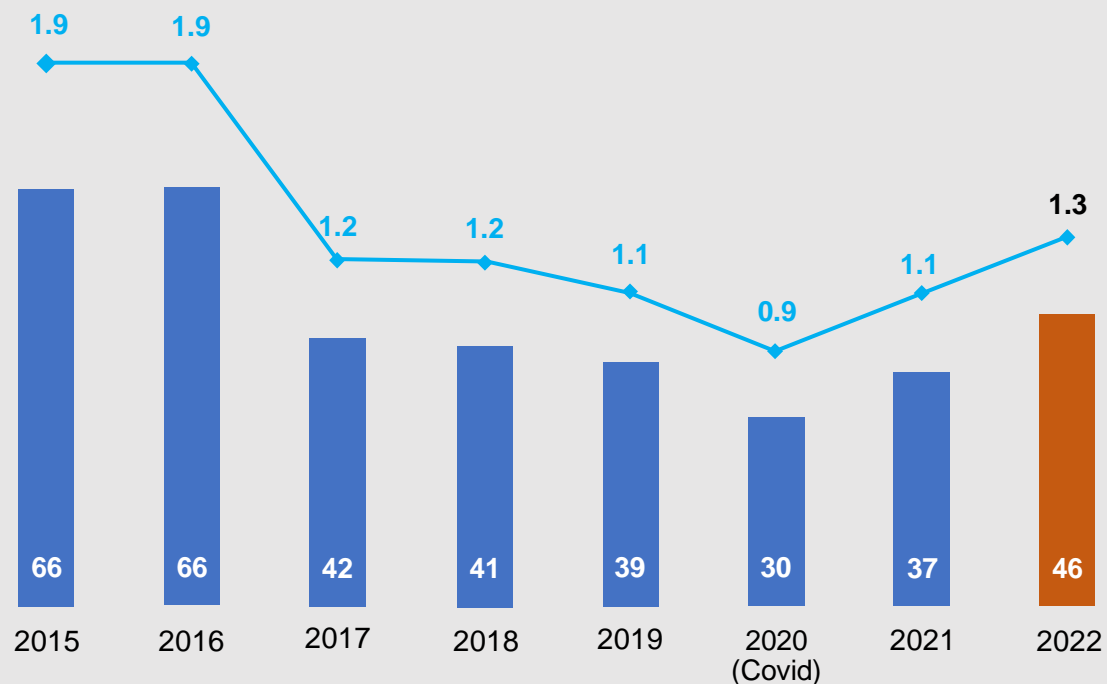


A Great Workforce A Great Workplace

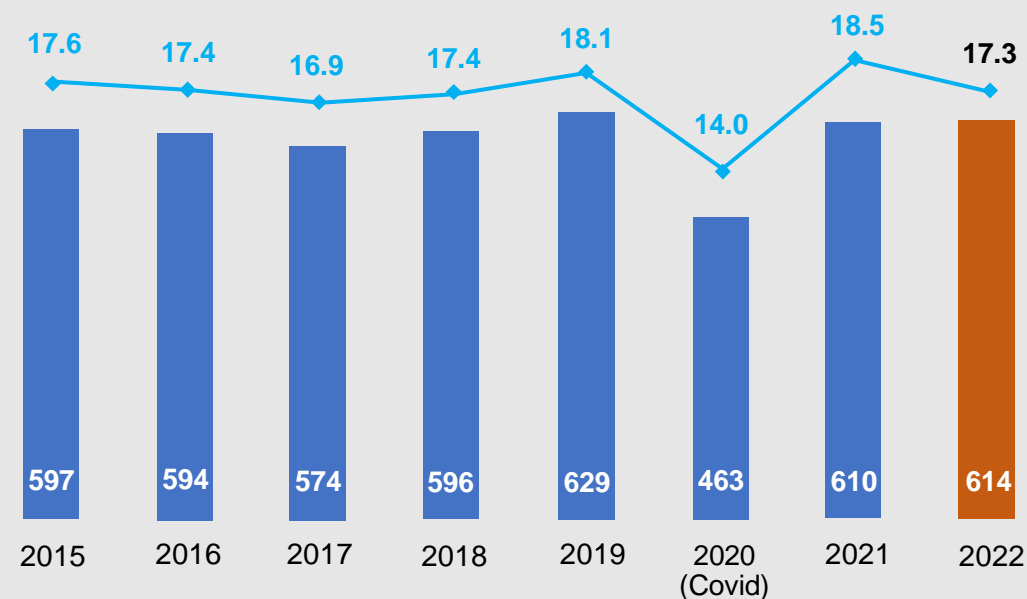
- 1. WSH Statistics**
- 2. Accident Case Studies**
- 3. WSH Resources**





Workplace Fatal Injuries



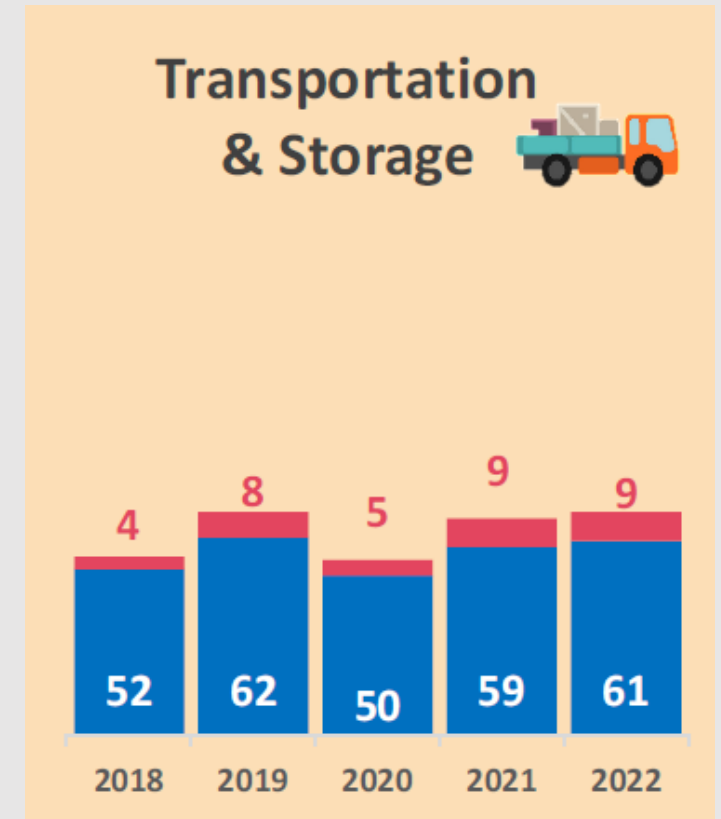
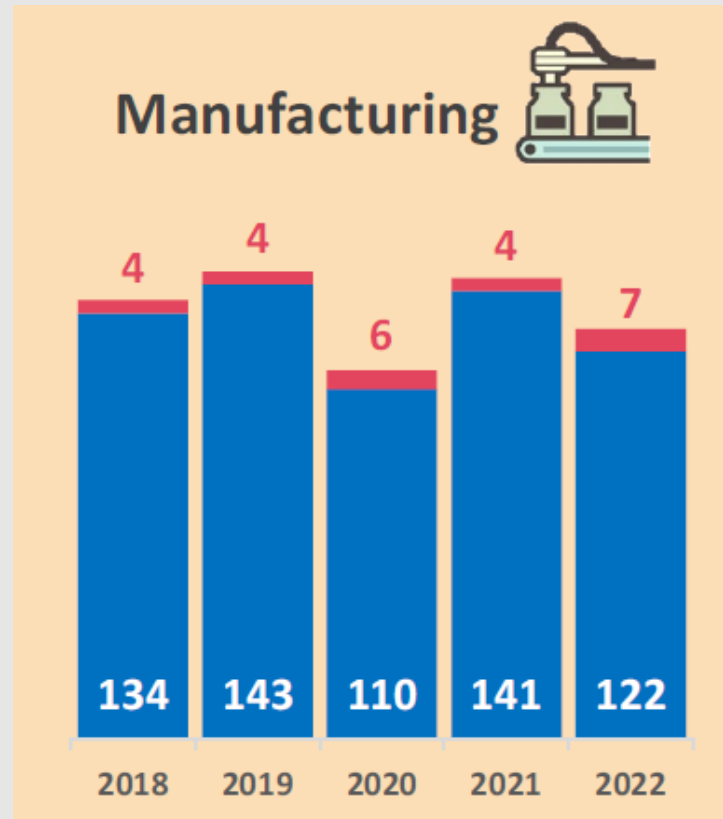
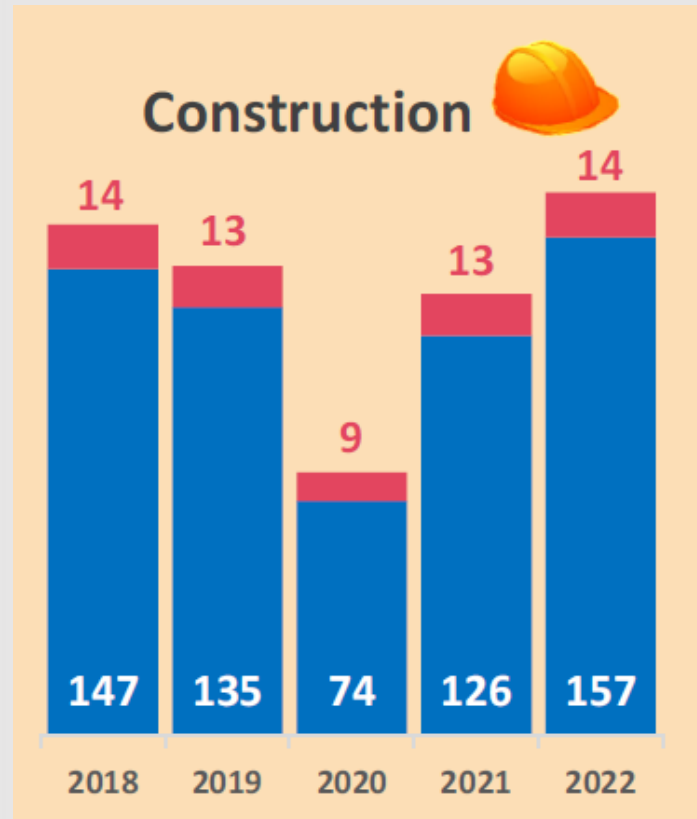
Workplace Major Injuries



 No. of Workplace Injuries
 Workplace Injury Rate (Per 100,000 workers)



Fatal & Major Injuries by Industry Sector

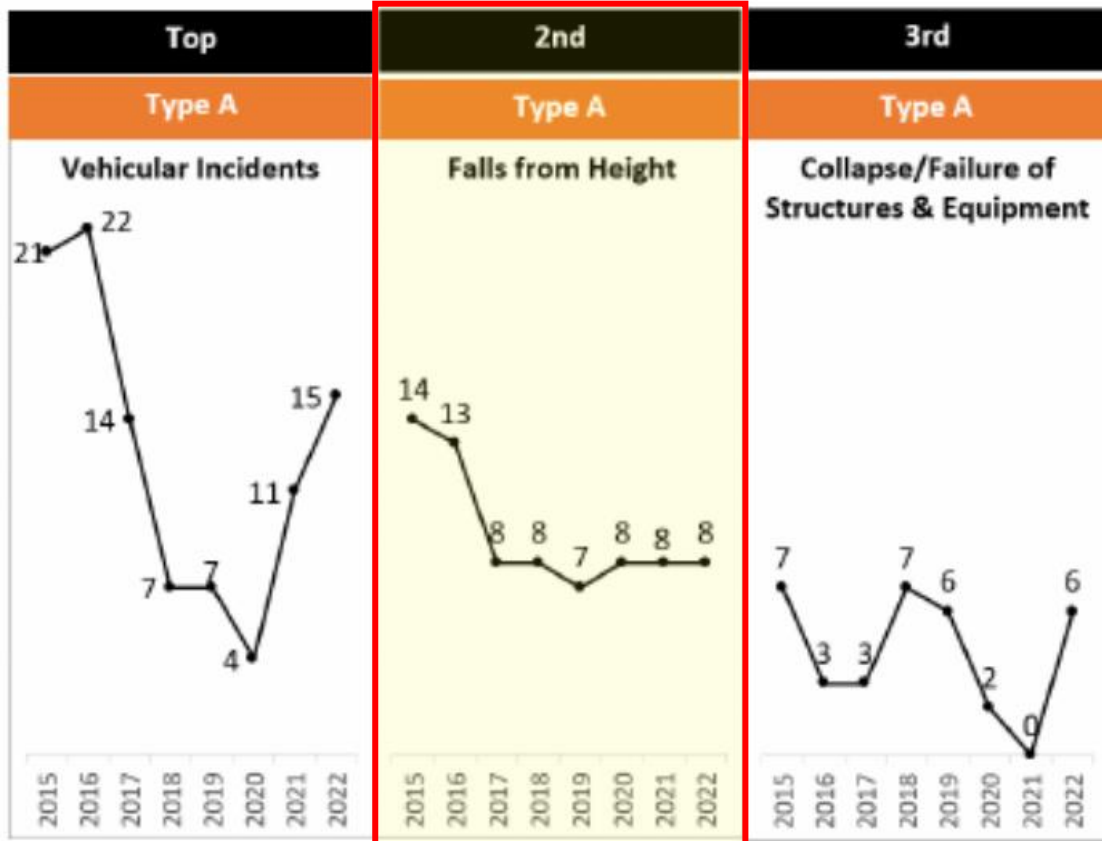


■ Fatal Injuries
■ Major Injuries

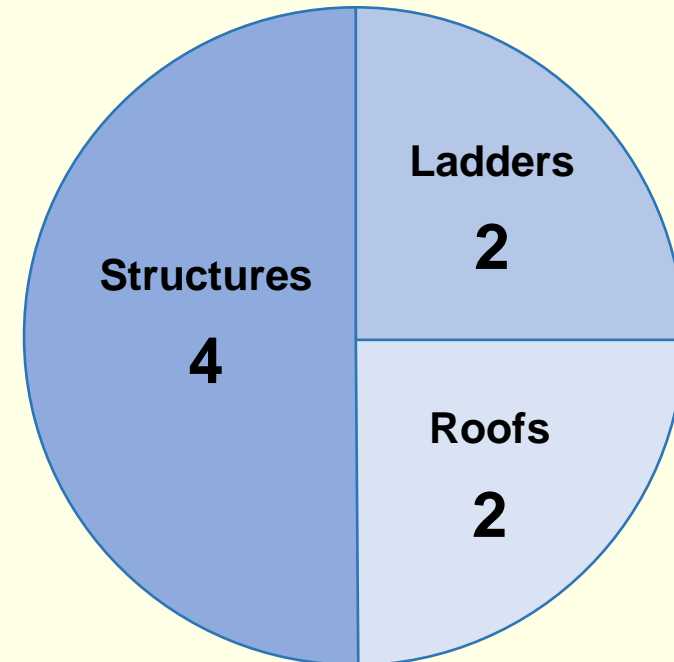


Top Contributing Causes of Fatal Injuries

Top Incident Types - 2022

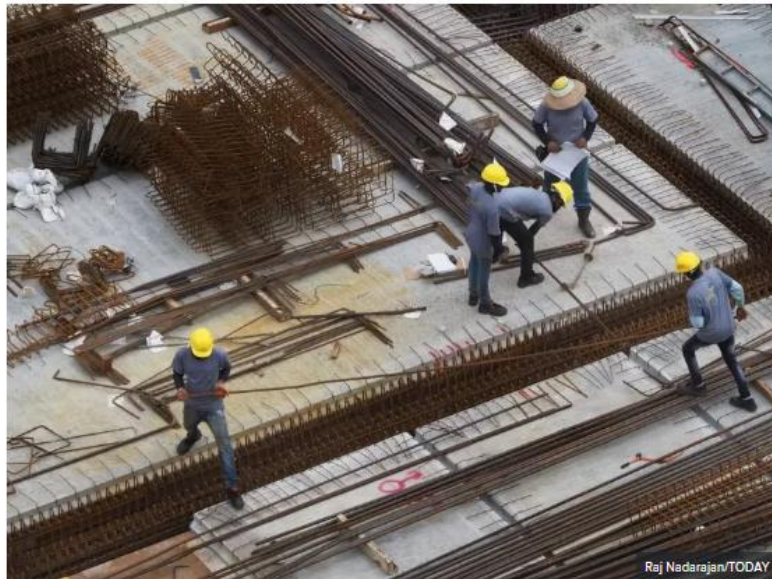


Falls from Height – Incident Agents 2022



Fatal Injuries – Heightened Safety Period

MOM imposes 'heightened safety' period; errant firms to be barred from hiring new foreign workers for up to 3 months



BY NAVENE ELANGOVAN

Published September 1, 2022
Updated September 2, 2022Follow us on [Instagram](#) and [Tiktok](#), and join our [Telegram](#) channel for the latest updates.

- The Ministry of Manpower is imposing a period of "heightened safety" from Sept 1, 2022 to Feb 28, 2023 to stem the tide of workplace deaths
- A company can be barred from employing new foreign employees for up to three months if found to have poor safety conditions after a serious or fatal accident
- It will also be mandatory for companies in industries such as construction and manufacturing to review their safety procedures from Sept 1 to 15

Heightened safety period extended amid rise in workplace accidents; higher penalties for breaches

Singapore



Workers at a construction site in Singapore. (File photo: AFP/Roslan Rahman)



Ashley Tham

10 Feb 2023 02:35PM
(Updated: 10 Feb 2023 02:41PM)

SINGAPORE: The heightened safety period imposed on companies in higher-risk industries will be extended by three months from Mar 1 until the end of May, with additional measures such as higher penalties for workplace safety breaches.

Announcing this on Friday (Feb 10), the Ministry of Manpower (MOM) noted that the heightened safety period was introduced in September 2022 for six months to address the "concerning rise" in workplace fatalities.

Related Topics

workplace safety

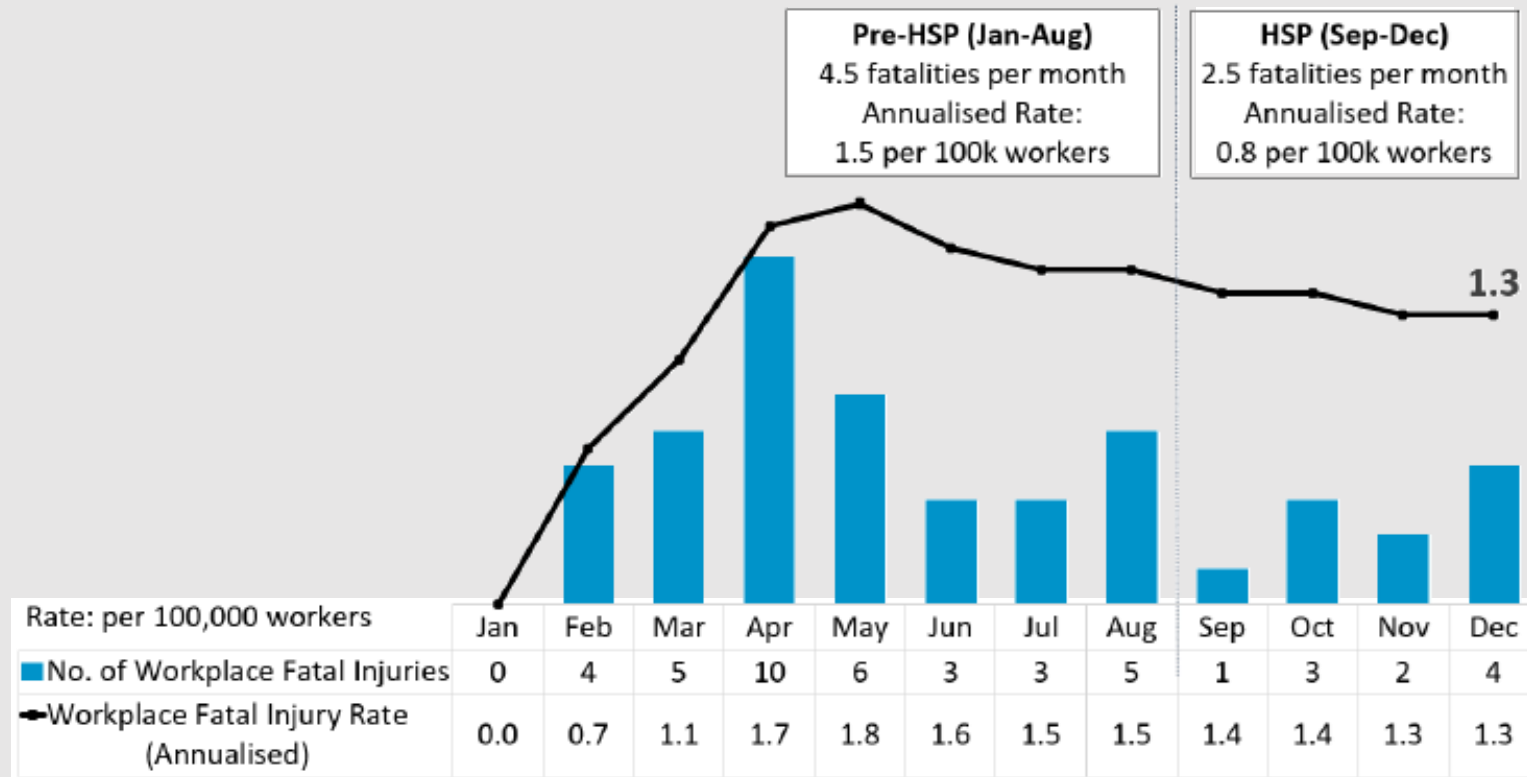
Ministry of Manpower

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Fatal Injuries – Heightened Safety Period

Workplace Fatal Injuries - 2022



1. WSH Statistics

2. Accident Case Studies

3. WSH Resources



Case Study #1 – Fall through Fragile Surface

Accident Description

- The Deceased stood on a metal frame over a staircase to install roof sheets, when the metal frame broke
- He lost his footing, fell and landed on the staircase landing below

Investigation Findings

- The company did not provide any personal fall arrest system to protect its workers performing work at heights (WAH)
- The company also did not provide adequate WAH training for its workers
- **The company director was prosecuted and issued an \$80,000 fine**



Case Study #1 – Fall through Fragile Surface

Learning Points



- Establish a fall prevention plan (FPP) for the roof works to address all potential hazards and their control measures
- Ensure that any structure a worker would be required to stand on is able to bear load, including any additional load during roof installation
- If a surface has been identified as fragile, no person should be allowed to be standing on the fragile surface
- Implement effective control measures, including providing safe means of access to work locations at heights, implementing travel restraint or personal fall arrest system



Case Study #2 – Fall through Fragile Surface

Accident Description

- The Deceased was working above a false ceiling in a building when he fell through the fragile surface and landed on the walkway 3m below.

Investigation Findings

- There was no safe means of access to the Deceased's work area
- Within the false ceiling, only the structure atop the machine was able to bear weight. However, there was no barricade for the said structure, nor demarcation of fragile surfaces within the false ceiling
- Lighting was poor and no additional lighting was provided
- **Both the occupier and the employer of the Deceased were prosecuted and each issued a \$220,000 fine**



Case Study #2 – Fall through Fragile Surface

Learning Points

- Provide suitable means for height access (e.g., vertical personnel platform) to eliminate the need to step directly on fragile surfaces
- Substitute ladders with safer alternatives (e.g., step platform) to provide more foothold/ stability
- If using a vertical ladder to access another level, ensure it is of adequate height and secured at the base
- Provide adequate supervision and ensure workers are trained in WAH



Case Study #3 – Fall from Ladder

Accident Description

- The Deceased was working at the roof terrace of a private dwelling when he fell from a ladder and landed on the floor

Investigation Findings

- The company had failed to communicate its RA to its employees before allowing them to commence work
- Inadequate supervision – no supervisor deployed for the worksite
- Inadequate training – the Deceased had not attended any WSH training
- **The company was prosecuted and issued a \$100,000 fine**



Case Study #3 – Fall from Ladder

Learning Points



- Ensure that ladder is of sufficient height for the worker to access the designated work area without having to stand on its top rungs
- Set up the ladder only on firm, level ground and ensure that the spreaders are locked in place prior to using the ladder
- Always maintain three points of contact when using a ladder
- Ensure that the ladder is suitable for the work and workers need not overreach
- Consider using a platform ladder to provide handhold and a more stable foothold



Case Study #4 – Fall from Edge of Container

Accident Description

- The Deceased was working inside a container, shifting material towards the edge of the container to be unloaded by a forklift
- In the process, he fell backwards over the edge of the container and hit his head against the ground

Investigation Findings

- The Deceased had been spotted to work near the open edge on several occasions; there were no fall prevention measures in place
- The items to be shifted were bulky and heavy, which increased the risk of the Deceased missing his footing at the edge of the container
- **The company was prosecuted and issued a \$50,000 fine**



Case Study #4 – Fall from Edge of Container

Learning Points

- Eliminate the need to work at height by unpacking only at a suitable unloading bay or when the container is placed on the ground
- Ensure workers are able to adopt a safe working position away from unprotected edges
- If manual handling is required, ensure goods are packed into small packages to avoid bulky packages which may block one's view
- Provide adequate manpower to perform unpacking of container



Case Study #5 – Caught between Lift Car and Landing

Accident Description

- The Deceased was using a lift car to bring debris down to the ground floor, with a co-worker operating the lift controls atop the car
- While the Deceased reached out of the lift door, the lift car suddenly descended and he was caught between the lift landing and the lift car

Investigation Findings

- There was gross overloading of the lift car, which resulted in its fast descent. The lift's wire rope was worn, which contributed to the accident
- The employer had deviated from its work procedure and failed to conduct any RA for use of the lift car to transport debris
- **The company director was prosecuted and issued a \$125,000 fine**



Case Study #5 – Caught between Lift Car and Landing

Learning Points

- Ensure that the lift system has a valid certificate from an authorised examiner before using it for material transport
- Material transported in the lift car must be within its safe working load
- Conduct a thorough risk assessment, taking into consideration any work at surrounding areas could introduce hazards to workers using the lift
- Develop and implement safe work procedures for the lift car to be used safely, including worker/s who need to access the lift shaft



1. WSH Statistics
2. Accident Case Studies
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WSH Resources to help you fulfil your WSH Duties



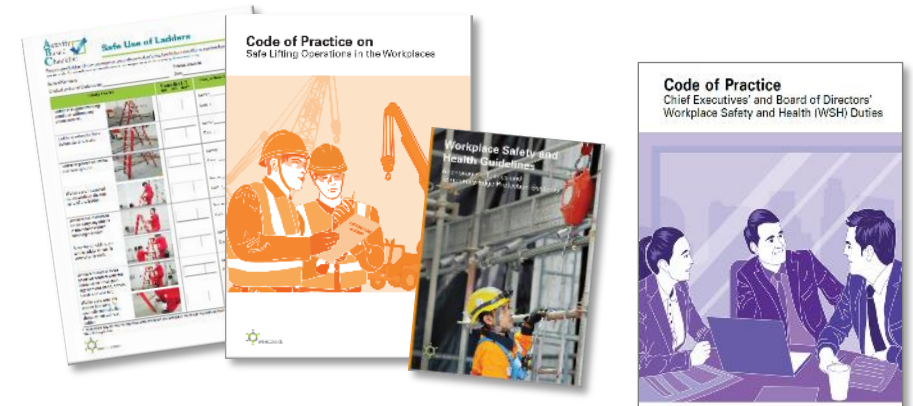
Information on WSH Act, Work Injury Compensation Act, Incident Reporting, and WSH e-Services



Read the full WSH Act and all subsidiary legislations under the Act, e.g. WSH (Construction) Regulations, WSH (Work at Heights) Regulations



Get WSH updates and download free resources



Stay Informed and Prevent Accidents

WSH ALERT

ACCIDENT

Worker fell into lift shaft

On 18 April 2023, a worker was carrying out welding work at a newly constructed lift shaft when he fell into the shaft and landed on the ground about six metres below. The worker was sent to the hospital where he died of his injuries.

Preliminary investigations revealed that guard rails were present around the open side of the lift shaft. The worker was not equipped with any fall-arrest equipment or travel restraints when the accident occurred.



Figure 1: Scene of the accident.



The worker was working on this metal piece before he fell

40cm

FATAL ACCIDENT

Worker dies after falling from roof

On 26 February 2023, a worker was preparing to carry out water-proofing works on the roof of a factory when he fell 4.1 metres to the ground. He was sent to the hospital but died of his injuries on 1 March 2023.

Preliminary investigations revealed that a horizontal lifeline was installed on the roof, but the worker was not wearing a safety harness or a safety helmet at the time of the accident.



Figure 1: Scene of the accident.

Working on roofs exposes workers to the risk of falling from height. The WSH Council calls on all companies doing work at height to ensure worker safety and undertake an urgent assessment of their safety measures.

What companies should do

Companies should urgently assess and ensure that their WSH management system includes the following measures or checks:

- **Fall Prevention Plan (FPP):** Establish and implement a site-specific FPP to reduce the risk of falling from height when working on roofs.

Report WSH Issues to Make Workplaces Safer

SnapSAFE – Report WSH Issues to your management team or to MOM

- SnapSAFE is a reporting platform that allows employees and members of public to report unsafe workplace practices.
- Use SnapSAFE to report:
 - Unsafe act: worker/s working unsafely or if you were asked to perform work without any protection
 - Unsafe condition: workplace hazards or unsafe equipment



THANK YOU



WSH ACOP

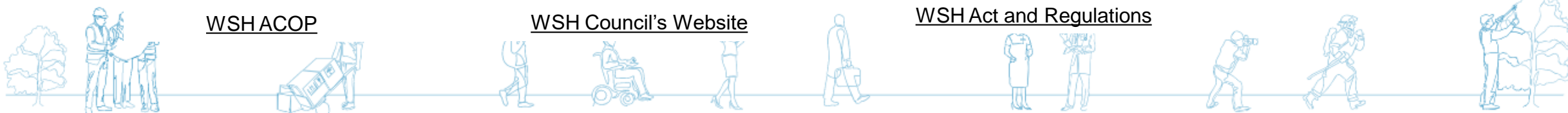


WSH Council's Website



WSH Act and Regulations

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