

13
December
2024

WSH ALERT

FATAL ACCIDENTS

Worker fell through skylight

In early December 2024, four workers were tasked to install guardrails at the edge of a workshop roof in preparation for installation of solar panels. After completing the installation at one side, the workers unhooked their travel restraints to move to another side of the roof. During the process, one of the workers fell 10 metres through a skylight, landed on the workshop floor and died subsequently.

There were multiple skylights on the workshop roof. Metal gratings (meant to serve as skylight covers) were found beside the skylights but have yet to be installed. The workers were moving around the rooftop with their safety harnesses unsecured at the time of the accident.

Figure 1: The roof of the workshop.

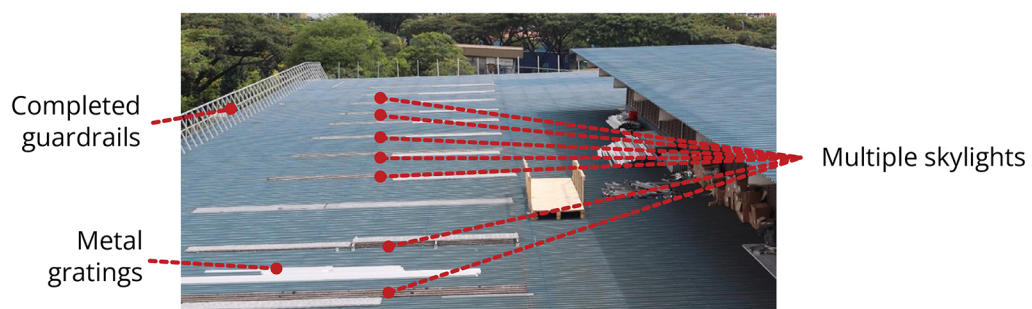
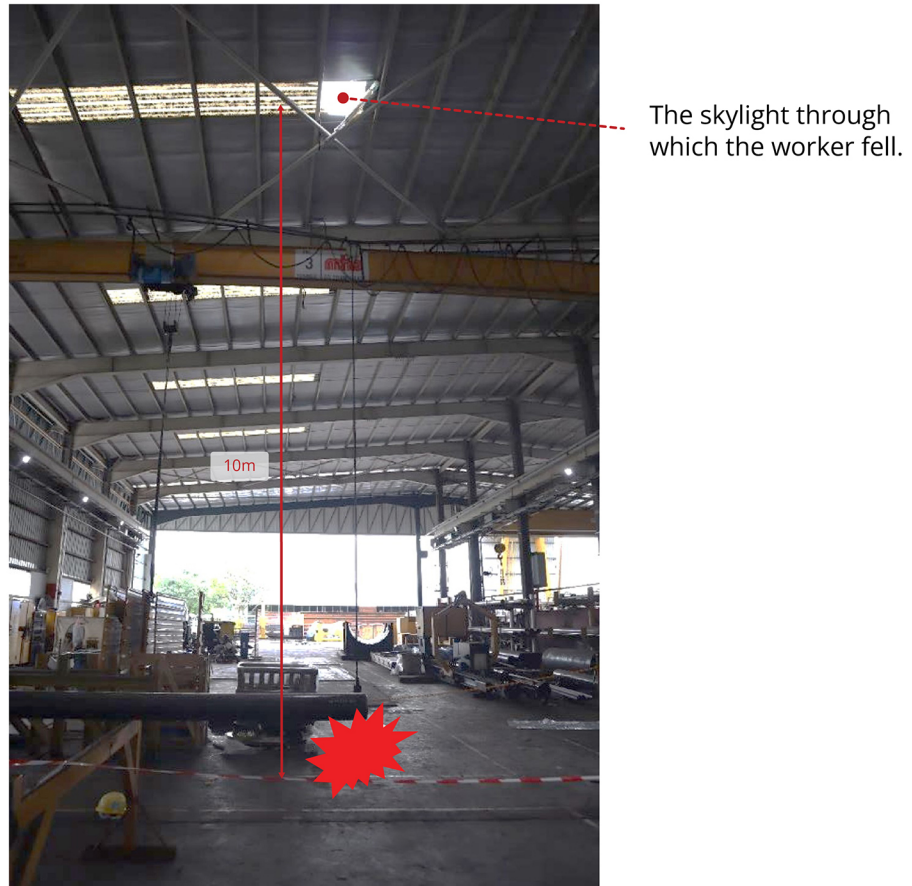


Figure 2: The worker landed on the workshop floor.



Skylights installed on roofs are typically fragile surfaces not designed to support the weight of a person. Similar fatal accidents had occurred on [October 2023](#) and [May 2022](#) where two workers fell through a skylight in separate incidents. The WSH Council calls on all companies carrying out roof works to conduct a rooftop risk assessment, identify site-specific risks, and implement the necessary control measures to prevent falls.

What companies should do

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

- **Roof hazard assessment:** Before starting work, confirm that the roof is able to support a person's weight. Conduct a rooftop assessment with the building occupier/owner to identify site-specific hazards including for falls (e.g. open sides, roof openings, fragile surfaces).
- **Plan the work activity:** In situations where there are multiple hazards (e.g. open sides and fragile surfaces), plan both the work sequence and worker movement on the roof. Restrict worker movement by dividing the work area into zones and instruct workers to operate only in areas that have been made safe. To reduce worker movement, plan for materials to be lifted directly to the designated work area wherever possible. This is to eliminate the need for workers to transfer materials across the roof, thereby decreasing their exposure to fall hazards.

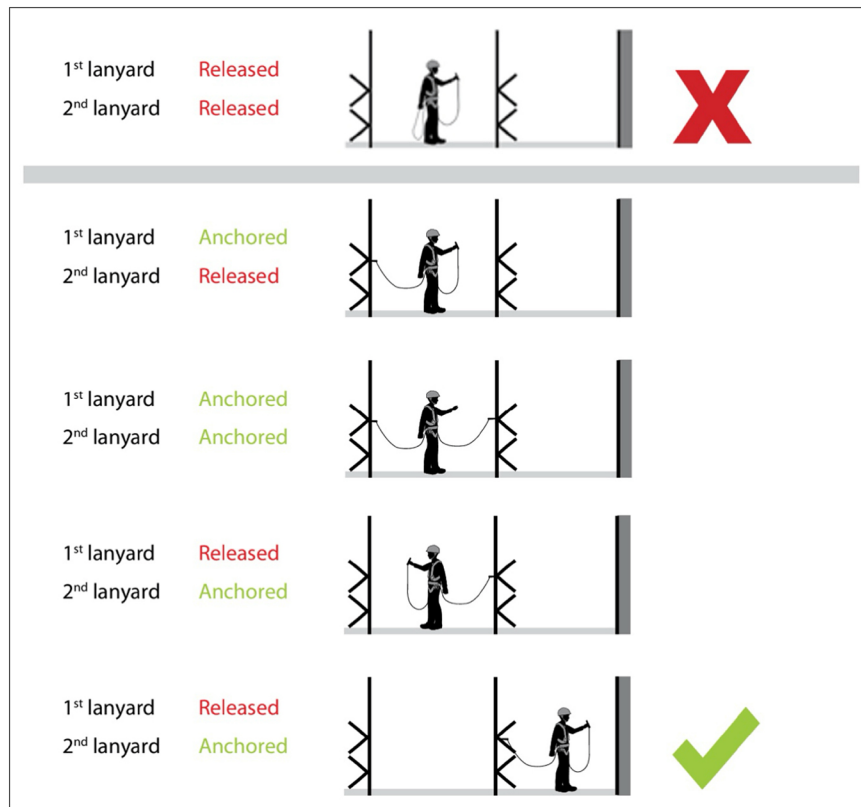
- **Fall prevention plan (FPP) and permit-to-work (PTW) System:** Under the First Schedule of the WSH (Work at Heights) Regulations 2013, occupiers of workplaces are required to establish and implement an FPP for all work-at-height activities and a PTW system for all hazardous works at height where a person could fall more than three metres. Ensure onsite checks have been carried out to confirm risk controls are in place and effective before authorising the permit.
- **Competent worker:** For work on roofs, only deploy workers who have completed the relevant training (e.g. the Workforce Skills Qualification (WSQ) course on Perform Work-at-Heights).
- **Physical protection from fragile surfaces:** Install the following to ensure workers do not step directly on fragile surfaces:
 - Guardrails around the fragile surface if practical;
 - A fall protection screen/safety cover (comprising a bolted down strong mesh panel placed over the fragile surface); or
 - Work platforms (e.g. crawler boards, walkways) over the fragile surface.
- **Hazard communication:** Ensure all workers have been briefed of the presence of fragile surfaces and the possibility of falling through them. Place warning signs at all entry points to the work area and around/at each identified fragile surface. Use brightly coloured tape or paint to clearly mark the presence of a fragile surface. Instruct workers never to step on a fragile surface.

Figure 3: Example of a fragile surface warning sign.



- **Personal protection:** Equip each worker with either a fall-arrest or travel-restraint equipment depending on the work area and the fall hazard(s) present. Identify suitable secure anchor points and install lifelines/additional anchor points along the route of access and at the work area to facilitate workers' movement. Ensure workers practise 100% tie-off to a secure anchor point or lifeline at all times in the presence of a fall hazard.

Figure 4: 100% tie-off enables active fall protection/prevention while moving on a rooftop.



Fall-arrest and travel-restraint systems cannot prevent a fall if there is no secure anchor point or lifeline. Never deploy workers to work in areas where there are no or insufficient points to hook to.

It is unsafe to send a worker to work at height with only a body harness and an unsecured lanyard. This is equivalent to providing the worker with no personal protection.

Do not leave workers to figure out their own anchor points unless they have been specially trained on the proper selection of anchor points.

- **Safety net:** Deploy a roof safety net below fragile surfaces to reduce the distance and severity of a fall where practical.
- **Work supervision:** Provide onsite supervision to ensure the planned work sequence and safe work procedures are strictly followed. Instruct supervisors to verify each worker is using their fall-arrest or travel-restraint equipment correctly before starting the work activity. Supervisors should ensure each worker is always properly hooked up while on the roof (even at rest) if they are in the vicinity of a fall hazard. In work areas where the risk of falls is high, do not allow hazardous work-at-height activities to continue without onsite supervision.

For more information, refer to the WSH Council's [Code of Practice on WSH Risk Management](#), [Code of Practice for Working Safely at Heights](#), [WSH Guidelines on Working Safely on Roofs](#), [WSH Guidelines on Personal Protective Equipment for Work At Heights](#), [WSH Guidelines on Anchorage, Lifelines and Temporary Edge Protection Systems](#), [6 Basic WSH Rules for Working on Roofs](#), and [Activity Based Checklist for Working on Rooftops](#).

Other relevant resources include the [WSH Insights: Prevent Falls from Open Sides](#), [WSH Insights: Prevent Falls with Travel Restraints](#), [Working on Fragile Roof Surfaces](#) poster, "CAUTION! FRAGILE ROOF" sticker, and the Roofing Association Singapore's presentation on [Working on Fragile Surfaces](#).

Under the WSH Act, first-time corporate offenders may be sentenced to the maximum fine of \$500,000 whilst individuals can either be sentenced to the maximum fine of \$200,000 and/or an imprisonment not exceeding 2 years. Read more on the [WSH Act penalties](#).

Information on the accident is based on preliminary investigations by the Ministry of Manpower as at 13 December 2024. 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.

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