Falling From Height - Cases and Learning Pts

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More workers falling to their deaths

Preventing fatal falls at workplaces

WORKERS who die from falls account for almost half of all workplace fatalities. Of these, two-thirds are falls from heights. Describing this as a worrying trend, Senior Parliamentary Secretary for Manpower, Mr. Haji M. A. Daud, yesterday said new regulations will be introduced this year.

During the debate on the Manpower Ministry’s budget, he said that two options are being studied: First, to make it compulsory for companies to use fall-prevention plans. These include guidelines on how to work safely at heights by identifying procedures and hazards. They also educate workers on the use of personal protection equipment.

Second, the Government may institute a “permit-to-work” system. This requires workers to obtain permits before they are allowed to work at heights.

He noted that falls from heights are often the result of unsafe practices such as the lack of barricades in structures that workers must scale.

Mr. Haji M. A. Daud was responding to MP, Mr. Sim Hong Thong (Ang Mo Kio GRC), who had expressed concern about construction workers falling at work, and maids falling while cleaning windows. On a brighter note, Mr. Haji M. A. Daud noted that Singapore’s overall workplace fatality rate remained low — at 2.3 fatalities per 100,000 workers last year.

Background

The current situation is due to a growing trend of fatal falls in the construction industry. The Ministry of Manpower (MOM) said the number of fatal falls in the construction industry in 2011 was the highest in recent years, with 17 fatalities. This compares to 9 fatalities in 2010 and 8 fatalities in 2009.

The MOM said that the high number of fatal falls in 2011 was due to a number of factors, including the increase in the number of foreign workers in the construction industry. The MOM also said that the industry’s safety culture had improved.

In an effort to prevent further fatal falls in the construction industry, the MOM announced new guidelines for the construction industry. These guidelines include the use of personal protective equipment, regular safety checks, and the establishment of safety committees.

Mr. Haji M. A. Daud said that the MOM would work closely with the construction industry to implement these guidelines and ensure that safety standards are met.

In the meantime, the MOM reminded employers to ensure that their workers are trained in safety procedures and to ensure that all equipment used on site is in good working order.

Spike in deaths from worksite falls

The number of worksite fatalities due to falls has increased in recent years. The MOM said that in 2011, 17 fatalities were recorded in the construction industry, compared to 9 fatalities in 2010 and 8 fatalities in 2009.

The MOM also said that 37 workers were killed in work-related accidents in 2011, compared to 24 fatalities in 2010.

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More dying in falls from height in workplaces: MOM

Thirteen workers have died at worksites due to falls from height in the first half of this year, compared to nine for the same period last year.

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Source: Straits Times, Lian He Wan Bao, Xin Min Daily
Profitability \equiv \text{Profit} + (\text{Loss})
Common contraventions relating to FFH hazards in 2011

No. of Contraventions

- Open sides through which a person might fall more than 2 metres (Con 22(2))
  - Number: 656

- Work platform or workplace from which a person is liable to fall more than 2 metres not provided with toe-boards and 2 or more guard-rails (Factories Scaffold 18(1) WSH Scaffold 22(2))
  - Number: 202

- Safe means of access to and egress from different level of buildings or structures at all times
  - Number: 128

- Provide secure handhold and foothold for any person who has to work at a place where he is liable to fall a distance of more than 2 metres
  - Number: 73
Worker standing at 22nd storey ledge guiding a precast component without any means of fall prevention nor fall protection.
Workers erecting falsework at height (and near edge of building) and unprotected against falls.
Recent inspection photos

2 workers working on the inclined roof
Workers working on the roof without any means of fall prevention or fall protection.
Case Study 1 : Fall from Open Side

Synopsis

A subcontractor was engaged to carry out block-laying and plastering works. Foreman instructed workers to clear some wooden pallets/materials at and near the place of work at the 7th storey. He then walked down the building to check on other works. About 5 minutes later, the foreman was seen on top of a pile of debris at the base of the building. He was bleeding profusely from the left side of his head.

Observations and Learning Points

Open sides everywhere except for certain areas at the 7th storey.

Materials & Debris were seen in many places, including close to edge of building, posing potential tripping and falling objects hazards.

The foreman had lost his footing and fallen from one of the unbarricaded sides and landed on the pile of debris below.

Bad Housekeeping, Poor Inspection Regime.
Case Study 2: Fall from a Suspended Scaffold

Synopsis

A painter fell 9 storeys while climbing out of a suspended scaffold to reach an adjacent building ledge.

Observations and Learning Points

Generic RA
No SWP for painting job – especially for “hard-to-reach” areas. *(Leaving it to the workers’ own devices.)*

Lack of proper supervision and instructions.

The worker could not make use of his personal fall-arrest system. *(He needed to unhook in order to climb out.)*
Case Study 3 : Fall through a Skylight Panel

Synopsis

Worker X and 3 co-workers, each carrying a pail of waterproofing material up to a roof to apply on the skylight panels. Suddenly, they heard a “breaking” sound.

Worker X had fallen through the skylight panel and landed 8 metres below.

Observations and Learning Points

Totally no safety provisions such as crawling boards had been provided as foothold for the workers to stand on (fragile materials) while on the roof.

According to the co-workers, their supervisor also told them that there were no anchorage points on the roof and hence they would not be able to use their safety belts while working on the roof.

No RA, No SWP, Poor supervision and instructions. No safety provisions, No PPE,… No FPP.
Case Study 4 : Fall off an Open Side

Synopsis

Worker X and co-workers were carrying out plastering works on the 5th storey of a building. While reaching out to plaster the outer side of a column, Worker X fell from the open side next to the column and landed 15 metres below.

Observations and Learning Points

No fall prevention such as guardrails at the open sides.

Poor housekeeping - lots of building materials and debris at and near the place of work obstructing access and presenting trip and fall hazards.

No RA, No SWP... No FPP
What can we do to eliminate / reduce FFH?

1. Risk Assessment
2. Safe Work Procedures
3. Fall Prevention Plan
Fall Prevention Plan

Policy for Fall Prevention
- Top management Commitment and Responsibilities
- Understood, implemented and maintained at all levels

Responsibilities
- Competent person(s) to develop, implement, evaluate FPP
- Competent person(s) to define, document and communicate roles, responsibilities and accountabilities
Fall Prevention Plan

Risk Assessment
- Hazard Identification
- Risk Assessment
- Hierarchy of Control Measures

Safe Work Practices
- Communication
- Implementation
- Review & Audit
Hierarchy of Control

Elimination

Substitution

Engineering Controls

Administrative

PPE

More simply... @ the workplace, please provide

(a) Safe means of access;
(b) Safe place of work; and
(c) A set of good PFAS and proper anchorages, for an added measure of safety.

Then, continuous improvement...

(a) Training;
(b) Communication;
(c) Supervision;
(d) Review
Golden Gate Bridge
Joseph Strauss, Chief engineer in-charge of design & construction of Golden Gate Bridge
Recap

• FFH remains the most common cause of fatalities.
• All companies are to devise and implement FPP.
• Poorly managed companies will continue to be MOM enforcement focus.
• Top Management Commitment & Leadership necessary to ensure FPP success.
• I believe, together, we can achieve a much higher safety performance and profitability.
• Let’s embrace the spirit of resolve and can-do of Joseph Strauss.
Thank You!