The Construction Industry: The most dangerous industry in Singapore?

WSH Forum
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More deaths in construction

Thirty-three people died while working in the construction sector last year, which is more than half of all workplace deaths.

NMH people died at work in 2013, said the latest Workplace Safety and Health Statistics Report. “The construction sector remains a cause for concern, with an increased fatality rate from 5.8 per 100,000 employees per year in 2012 to 10.0 per 100,000 employed persons in 2013,” the report said.

This year, the construction sector has already seen 12 deaths in the first three months. Together with the mining and manufacturing sectors - the three traditional high-risk sectors - this contributed to 21 per cent of workplace deaths.

The top incident types which accounted for the majority of fatalities were:
1. Falls
2. Collapses of structures and equipment
3. Getting struck by moving objects
4. Fails are still the top killer, with 17 cases last year.

MOVING OBJECTS CAUSED MORE INJURIES

There was also an increase in deaths involving moving objects, from six fatalities in 2012 to 11 in 2013.

Singapore's workplace fatal injury rate remained at 21 per 100,000 employed persons last year, the same rate as in 2012. The number of workplace minor injuries has increased by about 10 per cent each year for the last two years.

The Ministry of Manpower's Commissioner for Workplace Safety and Health Ho Seow Hoon said the ministry would be stepping up enforcement efforts to ensure workplaces remain safe.

“We will not hesitate to impose Stop Work Orders and fines for any contractor found to have unsafe work practices,” he said.

Construction sector has worst safety record

Industry accounts for more than half of workplace deaths last year.

BY ALEIA TAN

The construction sector has seen the largest number of deaths in the new Singaporean industry, as work continues apace.

With the construction sector along with the building of new hospitals and manufacturing, construction has also contributed to the rise in fatalities.

I encountered 21 at the 19 workplace fatalities last year. As a result, the sector's total fatality rate is up to 21 per 100,000 workers in 2013. This is down from 2012.

And it is not just good news this year either. In the first three months, 14 out of the 19 workplace fatalities were in the construction sector.

The figures were revealed by Deputy Parliamentary Secretary for Manpower Herman Liu. "The sector has seen its share of deaths in the past, but it has been faring better this year." The 14 fatalities in the first quarter of 2014 is the lowest in recent years.

The 2013 workplace fatal injury rate was 21 per 100,000 employed persons, which is the same as the previous year. The number of workplace minor injuries has increased by about 10 per cent each year for the last two years.

The Ministry of Manpower's Commissioner for Workplace Safety and Health Ho Seow Hoon said the ministry would be stepping up enforcement efforts to ensure workplaces remain safe.

“We will not hesitate to impose Stop Work Orders and fines for any contractor found to have unsafe work practices,” he said.

It is because industry workers and the government have to work together to ensure workplace safety standards. NMH will introduce new guidelines and will also be calling out companies who have complied with the new guidelines.

The council hopes to bring down the number of workplace fatalities by focusing on safety and health issues in the workplace. Workplace Safety and Health Council chairman Tan Yang said the ministry and employers have been working hard to improve workplace safety and health performance.

"We have worked with the construction sector to improve work practices and now have a special task force to focus on the sector," he said.

"We must also ensure that workplace safety standards are maintained and that workers are protected.

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Tan said the council's main concern is workplace safety, adding: "We will continue to work with industry groups and will also be working with other sectors to improve workplace safety standards."
Summary & Highlights

- **Workplace fatal injury rate remained at 2.1, the same rate as in 2012.**

- Number of workplace minor injuries increased by about 10% each year for last 2 years – 9,505 (2011) to 10,469 (2012) and 11,467 (2013).

- Overall major injury rate rose from 364 (2011) to 384 (2012) and 403 (2013).

- **Construction sector remained as cause of concern, with increased FR from 5.9 (2012) to 7.0 (2013), increase of 18%.**

- **Construction also accounted for highest 33 fatalities or 56% of all fatalities up from 26 in 2012. This is a rise of 21%.**

- FR for marine and manufacturing improved from 5.6 (2012) to 2.7 (2013) and 2.8 (2012) to 1.4 (2013) respectively.
Worrying trend of increasing Construction fatalities

Workplace Fatality & Fatality Rate - Construction

Fatality Rate - Manufacturing

Fatality Rate - Marine

Top Contributing Industry Sector for Workplace Fatalities

Fatalities by Industry Sectors - 2012

Fatalities by Industry Sectors - 2013
2014 has started on sombre note. 9 workplace fatalities in January.

Worrying trend of increasing Construction fatalities since July 2013

Situation unacceptable & stern action required. Irresponsible contractors who cut corners and put workers at risk will face harsh penalties.

10 out of 15 fatalities came from construction.
“MOM will continue to work closely with the industry to raise WSH standards but we will take stern action against errant stakeholders.”

Enhanced Enforcement Measures

- Enhance Business Under Surveillance (BUS)
- Tighten Conditions for lifting of SWO
- Recalibrate the Demerit Point System (DPS)
- Increased Quantum of Composition Fines
- Pressing for Deterrent Sentencing where warranted
“Changes to the BUS Programme”

Enhancements to Business Under Surveillance Programme (BUS)

- Expanding coverage of companies placed in BUS
- Tightening processes for assessment & surveillance within BUS
- Increasing culture building capabilities of companies

BUS Company

Gap Analysis to strengthen WSH management system

RM implementation

Past accident profile/trend

Action Plan
Tighten the Conditions of Lifting of a Stop Work Order (SWO)

Address Systemic lapses in addition to Physical Lapses

Rectification of Physical Lapses

Address systemic lapses through effective implementation of WSH Management System to ensure sustained improvements upon lifting of SWO

Improve workers’ competency through refresher training
Strengthen the Demerit Points System (DPS)

Current: 2-Stage Mechanism:

Stage 1
- Contractors accruing ≤ 18 pts
- Warning letter will be issued when > 18 pts are accumulated within 12 mths
- Upon which demerits points will “reset” to 0

Stage 2
Main Contractor
- Monitored on a per worksite basis
- Any worksite accruing > 18 pts over 12 months will have their MYE frozen

Subcontractor
- Monitored on company wide basis
- Any company accruing >18 pts over 12 months will be blacklisted

Post 2nd Stage
If 3 or more worksites under the main con accumulates >18 pts, entire company will be blacklisted for 24 months

Enhance the DPS to strengthen its deterrence effect

Recalibrate the points system and the trigger for administrative penalties

Review the Demerit Points System (DPS)
“MOM will continue to work closely with the industry to raise WSH standards but we will take stern action against errant stakeholders”

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ProBE (WAH) Enforcement
Jun – Jul 2014
174 firms hauled up for safety breaches

Surprise checks on worksites find rise in lapses despite tougher rules

By JANICE HENG

THE authorities took 174 companies to task after a month-long sting operation by the Manpower Ministry (MOM) uncovered hundreds of safety breaches at dozens of worksites.

Work was ordered to be halted at 44 worksites with 300 checks in July last year unearthed 107 breaches.

The rise in lapses comes even after safety regulations were tightened in May this year, requiring factories to have a site-specific work-at-height platforms that lacked barriers to prevent falls, and the lack of a safe way to access such work areas. A similar round of 300 checks in July last year unearthed 107 lapses.

The body of a worker who fell from the 20th floor being carried from the Silversea condominium construction site last September. ST PHOTO: CAROLINE CHIA

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The body of a worker who fell from the 20th floor being carried from the Silversea condominium construction site last September. ST PHOTO: CAROLINE CHIA

M.O.M. OPERATION UNCOVERS MORE THAN 350 LAPSES

Action taken against 174 firms for workplace safety violations

60 worksites fined between $81,000 and $681,000 for four issued stop-work orders.

SINGAPORE — A month-long operation by the Ministry of Manpower (MOM) uncovered more than 450 workplace safety violations, including cases where fall-prevention measures had been implemented at the open sides of the 13th storey of a building under construction.

During the Workplace Safety and Health (WSH) enforcement operation in June and July, the MOM conducted surprise inspections on 150 worksites in high-risk sectors, such as the construction and marine industries. A citation was subsequently issued against 64 companies for 280 workplace safety violations, the ministry said yesterday.

Among these worksites, 60 were fined between $81,000 and $681,000 per inspection, and four were issued with stop-work orders for severe WSH lapses, the MOM said.

Common lapses included open sides and openings at work areas that were left unguarded, failure to take reasonable practicable measures to prevent a person from falling during the removal of a barrier or guard rail, and the lack of safe means of access to and from work areas.

The inspections of the four worksites issued with stop-work orders must rectify the unsafe conditions that had been identified, said the MOM.

In April, it had conducted Operation Perkukuh, which found 280 safety violations in 35 days. Four fall stop-work orders and 74 fines totalling more than $810,000 were imposed.

The enforcement operations were conducted as concerns remain that workers need to be done to reduce workplace injuries and fatalities.

There were 47 construction-related deaths in the first half of the year, up from 36 fatalities during the same period last year.

The number of incidents involving major injuries in the first five months also jumped 16 per cent from the same period last year. Last year, there were 54 fatalities in the construction sector — the top contributor to workplace injuries. The fatality figures led Senior Parliamentary Secretary (Manpower and Education) Hrianta Dass to call for “urgent and serious action” to improve the situation.

“The trend continues, I understand we may end the year with a higher fatality and major injury rate than in 2012,” he said in a speech.

The MOM said yesterday that the vast majority of the companies’ worksites were found to have complied with the need to implement fall prevention plans to reduce or eliminate the risk of falling and a permit-to-work system, which is meant to ensure that all safety measures are in place before work can start. Its inspections showed that 84 per cent of companies have implemented fall prevention plans and 77 per cent have established permit-to-work systems to manage hazardous activities-related to work at heights.

Mr Chan Yew Kwong, director of the MOM’s Occupational Safety and Health Inspectorate, said: “Falls from heights are still the leading cause of workplace deaths, so this is an area that we will continue to focus on. We will not hesitate to take action against errant employers.”
Common Findings in Landed Dwelling Construction
Falling from Heights

WSH (WAH) Regulations:

8(2) – Every open side or opening into or through which a person is liable to fall more than 2 metres shall be covered or guarded by effective guard-rails or barriers to prevent fall.

8(5) – Where it is not reasonably practicable to comply with (2), or during the installation, alteration or removal of the covers, guard-rails or barriers –

(a) A travel restraint system shall be used to prevent a person falling into or through the open side or opening referred to in paragraph (2); or

(b) Where it is not reasonably practicable to comply with sub-paragraph (a), a fall arrest system shall be used.
**No Safe Means of Access / Egress**

**WSH (WAH) Regulations:**

14 – Where in a workplace any person is required to carry out any work at height –

(a) In or on an elevated place from which the person could fall;

(b) In the vicinity of an opening through which the person could fall;

(c) In vicinity of an edge over which the person could fall;

(d) On a surface through which the person could fall; or

(e) In any other place (whether above or below ground) from which the person could fall,

It shall be the duty of the occupier of the workplace to take, so far as is reasonably practicable, such measures as are necessary to ensure safe means of access to and egress from any area in the workplace referred to in paragraph (a), (b), (c), (d) or (e)
Scaffold

WSH (Scaffold) Regulations:

22(2) – Every side of a work platform or workplace from which a person is liable to fall more than 2 metres shall be provided with toe-boards and 2 or more guard-rails.

21(2) – All boards, planks or decking used in the construction of work platforms in a workplace shall –
   (c) Be flushed along their lengths and effectively secured to prevent tipping or uplift.

12(1) – it shall be the duty of the occupier of workplace where a scaffold is constructed, erected or installed to ensure that every scaffold shall have at least one designated access point form which a person may gain access onto the scaffold.
(2) It shall be the duty of the occupier of a workplace where a scaffold is constructed, erected or installed to ensure that every designated access point is –
   (a) Clearly marked with a sign or label; and
   (b) made safe for use by any person
WSH (Construction) Regulations:
27 – It shall be the duty of the occupier of a worksite to ensure that at the worksite –
(a) All passageways, stairs, platforms and other means of access or places of work in the worksite are kept free from debris or protruding objects or any other obstruction that could cause tripping; and
(b) Any sharp projection which is present in any passageway, stair, platform and other means of access or place of work in the worksite and which may injure any person is removed or otherwise made safe.
CASE STUDIES
Construction Industry

WSH COUNCIL
Case Study 1

Description of Accident

The deceased and his co-workers were working on top of the car porch canopy roof when the Deceased fell through an opening and landed on the floor slab of the car porch.

The deceased was immediately conveyed to the hospital, but succumbed to his injuries on the same day. Cause of death was certified as “Head Injury”
Case Study 1

Deceased fell through this opening on car porch canopy roof

3.4m
Deceased fall through this opening on car porch canopy roof.

Deceased was standing around this area with his back facing the opening.
Case Study 2

Description of Accident

The Deceased and 5 other co-workers were installing the steel reinforcement bars (rebars) for a roof reinforced concrete (RC) beam of a 2-storey detached house. This RC beam was located at an edge of the roof. The Deceased while handling one end of a rebar fell over the edge of the roof platform and landed on the ground about 9.8m down.

The Deceased was conveyed by the ambulance to the National University Hospital where he succumbed to his injuries.
Case Study 2

- 200mm gap
- 450mm diagonal gap

Rebar Deceased was working on
Resources
Resources

Safety Programmes

Resources to Raise Safety Awareness
- Circulars and Online Resources

Year-long Engagement Efforts
- MOM and WSHC Events

Onsite WAH Compliance Assistance
- The SCAV Programme
Accidents do not affect the injured alone....

It affects the loved ones too.
Thank You for your attention