

# ADDRESSING FATALITIES AND INJURIES AT WORK DUE TO FALLS- THE SINGAPORE JOURNEY

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Falls (including Slips, Trips and Falls) continued to be the leading incident type in Singapore for fatalities and injuries in 2012 as well as previous years. Recognizing the need for holistic intervention against perennial cause for injuries and deaths at work, Singapore has embarked on a journey against Falls at a national level through concerted efforts involving the government, Workplace Safety and Health Council, industry and business associations. This paper discusses Singapore's journey, key milestone as well as key challenges in the national efforts to stamp out workplace accidents due to Falls.

## **Introduction**

Falls is a key area of concern for workplace safety as a top contributor for workplace deaths in Singapore. In the last decade, Falls from Heights accounted for about one third of total work fatalities every year (Workplace Safety and Health Council, 2010). Concrete steps had been taken to address the problem of Falls. Both engagement and enforcement efforts saw some initial success in the gradual decline in fatalities due to falls from 25 in 2006 to 17 in 2012, a 30% reduction. (Workplace Safety and Health Institute, 2013) In this paper, we will be touching on the journey taken by Singapore to address the Falls issue; more specifically we will focus on falling from heights.

Falls at work have always been a priority area for intervention by the Ministry of Manpower, Singapore. But the Ministry of Manpower does not work alone. The Workplace Safety and Health Council (WSH Council) was established on 1 April 2008, comprising of 18 leaders from the major industry sectors (including construction, manufacturing, marine industries, petrochemicals and logistics), the government, unions and professionals from the legal, insurance and academic fields. The WSH Council works closely with the Ministry of Manpower, other Government agencies, the industry, unions and professional associations to develop strategies to raise WSH standards in Singapore and to realize the national Workplace Safety and Health 2018 strategy. One of the key initiatives led by the WSH Council was the formation of the National Work at Height Safety Taskforce.

The National Work at Height Safety Taskforce formed in Dec 2009 heralded the beginning of our concerted national effort to address Work at Heights (WAH) safety by all key stakeholders and not just the government alone. The Taskforce is led by Mr. Wong Weng Sun, President and CEO, Sembcorp Marine Ltd, with members from the Ministry of Manpower, the Workplace Safety and Health Council (WSH Council), various industry representatives and training providers.

The WAH Taskforce also established the national strategic framework consisting of a three-pronged plan to improve WAH safety across workplaces namely building strong capabilities, promoting the benefits of WAH safety, and enhancing the intervention framework for WAH. This national strategic framework thus became the guiding beacon for our journey towards safer work at heights over the years. This is the story of our work at heights journey with its key milestones and challenges.

### **Building Strong Capabilities**

The WAH Taskforce, together with the Ministry of Manpower, Singapore, analysed the contributory factors for 126 works at heights (WAH) incidents. Key contributory factors including the lack of safe work procedures and inadequate fall prevention measures highlighted gaps in our industry practices and competency standards for WAH. Efforts to build strong WAH capabilities were thus made to develop industry guidelines, standards for practical implementation as well as a national competency framework for WAH training.

#### *Enhancing Industry Standards for WAH Practices*

In 2009, the WSH Council issued the Approved Code of Practice (ACOP) for Working Safely at Heights, which illustrated a variety of control measures, work practices and fall prevention measures that address the risk of falls. The ACOP also highlighted the Fall Prevention Plan which provided a systemic approach to eliminate or mitigate the risk of falls. The WSH council revised this ACOP regularly to update according to current developments. The latest revision was dated Mar 13.

The WSH Council also developed the WAH Compendium comprising of 3 Guides on key WAH issues namely Guide for Working Safely on Roof, Guide on Anchorage, Lifelines and Temporary Edge Protection Systems, Guide on Personal Protective Equipment for Work at Heights. These guides aim to provide practical instruction to implement safe work practices for working at heights to compliment the ACOP for Working Safely at Heights.

#### *Developing National WAH Competency Framework*

To address industry gaps in competency to work safely at heights, a new national competency framework was launched earlier in 2013 this year. Co-developed by the WSH Council and Ministry of Manpower, this is the first safety and health competency framework developed in Singapore for a specific area of work. It will address the concerns raised by the industry on competencies and raise capabilities of all stakeholders involved in addressing WAH risks, from professionals down to workers. The WAH Competency Framework will be the foundation in building capabilities and competencies to equip all levels of staff with the necessary skills to work safely at heights. It will focus on training four different levels of vocation – workers, supervisors, assessors and managers.

#### *Other Assistance to build WAH Capabilities*

Recognizing that companies may lack capabilities or resource to properly adopt safe WAH practices within their workplaces, the Ministry of Manpower Singapore came up with various financial assistance schemes to encourage more companies to take on a more proactive role in ensuring a safer environment for the workers. Acknowledging that small and medium enterprises (SMEs) may lack capabilities or resources to implement good WAH safety practices, various financial assistance programmes were setup to help these companies. This includes financial assistance schemes like Risk Management Assistance Fund and WSH Assist which helps defray the cost the companies might need to bear to engage consultants to help them identify any gaps, formulate action plans and to build in-house capabilities.

## **Promoting the Benefits of WAH Safety**

One of the key strategies under the National WAH Taskforce framework was to get all stakeholders to recognise the importance of adopting good WAH practices. However, it was also noted that there were a few barriers that might hinder companies from practicing good WAH or rather WSH practice in general, namely the lack of capability and resources to adopt these practices and the lack of safety culture within companies.

### *Raising Industry Awareness on WAH Safety*

To reach out to diverse industry stakeholders to raise awareness on key WAH issues and safe work practices, the WSH Council, supported by the Ministry of Manpower organized various one-off and recurrent free seminars, forums and workshops to educate various industry sectors on work at height hazards and safe work at height practices. These outreach events were also often organized in collaboration with industry partners including the Singapore Contractors Association Limited (SCAL) of construction sector and Association of Singapore Marine Industries (ASMI) of marine sector.

In efforts to bring in international WAH expertise to enrich the WAH awareness of local industries, the inaugural WAH Conference 2012-Scaling New Heights in Fall Protection was conducted as a satellite event under the WSH Conference 2012, with support of the Ministry of Manpower and the Workplace Safety and Health Council. The event also aims to promote Singapore as a centre of WSH excellence in Asia Pacific in particular for working at heights.

The inaugural WAH Conference 2012-Scaling New Heights in Fall Protection was hosted on 14 Sep 12 by the International Society for Fall Protection (ISFP) and Access and Scaffold Industry Association (ASIA) of Singapore. The Conference attended by more than 500 industry members, brought together the best minds, thought leaders, regulators, safety professionals, WAH practitioners, and other industry stakeholders in WAH to discuss and deliberate on the real challenges and complex issues facing the WAH community at the workplace. Esteemed conference speakers include Mr. Jordan Barab, Deputy Assistant Secretary for Occupational Safety and Health Occupational Safety and Health Administration, United States Department of Labor and Mr. Kevin Myers, Deputy Chief Executive, Health and Safety Executive (HSE), United Kingdom. Day 2 of the Conference also include an interactive workshop featuring hands-on practical WAH solutions in key areas of concern.

### *Safety Compliance Assistance Visit (SCAV)*

To reach out to workers who have not attended our forums and seminars, a new mode of engagement channel was developed in the form of the Safety Compliance Assistance Visits or SCAV to bring WAH awareness directly to site personnel in their workplaces.

The SCAV was a new, innovative capability building and intervention tool initiated by the National Work at Heights Taskforce in Mar 10. The objectives of SCAV were to provide on-site safety educational training to supervisors and workers, create awareness of WAH safety by disseminating educational materials, and site demonstration. Lastly, SCAV strived to enhance the standards of the safety conditions and practices by identifying safety lapses and offering professional advice. SCAV is fully funded by the Singapore government and without charges to the recipient companies.

SCAV involved workplace safety and health professionals who will visit smaller workplaces across the island in special safety vans to reach, engage and educate industry players on workplace safety and health issues. The vans showcase the latest equipment and solutions for WAH as part of the on-site awareness education. Such workplaces will benefit most from practical assistance to build capability for better WSH management. Workplaces found to have WAH concerns will be given time to make improvements before a second visit by the Ministry of Manpower inspectors.

### *WAH outreach Tools and Collaterals*

Various educational and promotional materials have also been developed by the WSH Council to support these outreach efforts on WAH safety. These include the Work at Height Kit, comprising the CEO Guide to WAH, Supervisor's Guidebook, Worker's Handbook, WAH Posters and Stickers. To highlight special WAH issues, customized collaterals such as the ladder safety pack was developed in 2011 to raise awareness on safe ladder usage against fatal falls from ladders. We were heartened when OSHA adopted the content for their ladder safety guidance published this year.

### *Culture Building*

A national, strategic and long-term approach is vital for Singapore to achieve sustained and continuous improvement in WSH standards. In attaining this objective, the WSH 2018 was co-drafted by the WSHC and the Ministry of Manpower (MOM). WSH 2018 spells out our national vision, the strategic outcomes and the strategies required to achieve the 2018 vision. And to sustain and improve WSH standard, there is a need to inculcate the right WSH mindset among the workforce and each to take accountability and responsibility for WSH outcomes. The WSH2018 national strategy thus addressed such concern by identifying and fostering of a progressive and pervasive WSH culture as one of the key outcome.

To achieve this outcome, WSHC has developed the CultureSAFE programme, a one-stop platform for organizations to embark on a WSH culture building journey beyond WSH infrastructure and competency that focuses on cultivating the right WSH mindset and attitudes in every employee – from top management down to the last worker. The CultureSAFE Model is a representation of the characteristic attributes of an organized group as established by its leaders. These attributes can dictate the WSH values and practices of its members which can in turn shape their psycho-social programming of deep seated WSH attitudes and perceptions.

### *Leveraging on Technology for Mass Outreach*

Understanding that with the advancement of technology these days, it is vital to tap on technology to further reach out to the public. One of the mediums to reach out to the general public and keep them updated on the latest WSH related news that was employed was the WSH bulletin. The WSH Bulletin is a free electronic newsletter published by the WSH Council. Emailed to subscribers 2 to 3 times weekly, the WSH Bulletin keeps WSH professionals and interested stakeholders updated on local and international WSH-related matters and developments. The subscribers of WSH Bulletin will receive email alerts on WSH alerts, Safety and Health articles, announcements and lastly OwLinks. Through these email alerts, the subscribers are kept updated with the latest WSH incidents and causal factors and at the same time kept abreast of the latest WSH developments and trends from around the world.

Another technology used is the smartphone application, SNAP@MOM. This application is a free and simple to use mobile application offered by the Ministry of Manpower Singapore to encourage and drive industry and community ownership in managing WSH. Using the latest mobile phone technology platform for iPhones and Android phones, members of the public or the workforce can take photographs of unsafe workplace practices and immediately send them to the occupiers of the workplace registered on the application. Occupiers can use this channel to be better aware of WSH concerns within their premises so that they can take immediate corrective actions. Public and the workforce can also send photographs of good works practices for purpose of sharing. In efforts to reach out to the masses, the mass media were also leveraged in safety promotional efforts including the ladder safety campaign media clip, a dedicated WAH portal and various WAH video clips.

## **Enhancing the Intervention Framework for WAH**

The third recommendation that was made by the taskforce was the need to establish and maintain an effective regulatory framework for better WAH standards. Based on this recommendation, 2 approaches were developed, namely coming up with a strategic intervention through a Programme-Based Engagement and lastly through the legislation review of the current regulations in Singapore.

### *Programme-Based Engagement (ProBE)*

ProBE is a key initiative of the strategic occupational safety and health engagement framework. The aim of ProBE is to engage the industries in partnership, for the purpose of raising Workplace Safety and Health competencies and awareness. Coupled with firm and fair enforcement activities, ProBE strives to help reduce the national occupational fatality rate, especially in the priority or high-risk areas that contribute to the bulk of deaths and injuries.

WAH remains one of the featured priority areas in ProBE, coming up with various engagement initiatives to raise awareness of the importance of working safely at heights. For instance in 2012, based on the statistics of 2011, ProBE targeted 4 key accident agencies that had the highest contribution to total the fatality of the year, namely roof, ladders, scaffolds and structures. Efforts were made to increase awareness of the safety working with these 4 accident agencies, these include but not limiting to a yearlong engagement effort through targeted industry workshops and forums, WAH clinics and pilot trail on Fragile Roof Program. It is heartening to note that a significant improvement of more than 50% in the reduction of fatalities in the focus areas for the year of 2012. (Workplace Safety and Health Institute, 2013)

### *Legislation Review*

Singapore being a relatively inexperienced nation in the aspect of WSH, understands the need to benchmark with other countries that are established in WSH and seek to learn from their successful examples. For example, in 2006 the International Advisory Panel (IAP) for Workplace Safety and Health was formed to allow Singapore to tap on the expertise and advice on international experts on strategies to reduce the national workplace fatality and injury rates. The roles of the IAP include advising on significant trends and developments in industrial practices that would impact WSH in Singapore, sharing of approaches to WSH challenges in other countries that might guide Singapore's WSH development and critiquing WSH standards, practices and the regulatory regime in Singapore and provide advice on possible improvements to bring WSH standards in Singapore to the level of leading edge country leaders.

In the aspect of WAH, Singapore noted that established countries like UK and USA have a dedicated set of regulations for WAH. While having a set of regulations that governs work at heights is important, it was not the top priority for Singapore. Singapore believes that it is more important to properly engage all the relevant stakeholders on the importance of safely working at heights and build up the capability of the workforce. After close to years of engagement efforts, the Ministry of Manpower believes it was timely to address the issues by consolidating all the relevant regulations and coming up with a set of regulations dedicated for WAH. However, to ensure that the regulations are fair and applicable, close to year worth of consultations was conducted spanning across all industries and the public before the enactment of the regulations in 2013.

## **Conclusion**

While some progress has been made in Singapore's journey, the story has yet to reach our goal of "Vision Zero" – zero injury, zero accident, and zero harm. While the ground work has been laid in terms of the enhanced regulations, technical standards and competency for working at

heights, the quantum leap will only be possible through the change of industry mindset and company culture. We have already begun to take infant steps towards culture building which will open another chapter for Singapore's own work at heights journey.

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