SISO WELCOMES ALL DELEGATES TO THE XXI WORLD CONGRESS ON SAFETY AND HEALTH AT WORK 2017

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Message From Mr Bernard Soh, President, SISO

Dear SISO Members and readers,

This issue of SAFETY MATTERS is timed to coincide with the XXI World Congress for Safety and Health at Work, as well as for the INSHPO Annual Business Meeting and the APOSHO 32 Annual General Meeting. On behalf of SISO, I would like to extend a warm welcome to Singapore for all delegates attending the World Congress, the INSHPO ABM, and the APOSHO 32 AGM, and wish you a rewarding and memorable time in Singapore.

SISO has been working hard to prepare for the World Congress and various related events. These preparations are in addition to our usual full slate of programmes and projects that we conduct for our Members. Thus, please allow me to share with you highlights of what SISO has been doing to prepare for the global Occupational Health and Safety (OHS) community’s visit to Singapore, as well as other programmes that may be of interest to you.

First of all, in November 2016, SISO launched the SISO Professional Standard for Workplace Safety and Health (WSH) Professionals. The Standard is supported by the Ministry of Manpower, Workplace Safety and Health Council and the National Trades Union Congress.

At the launch, eight NTUC affiliate unions and eight companies have already confirmed their support for the Standard. As a follow-up, we are now proactively getting the Standard accepted and adopted by more Employers, HR Professionals, Unions, and other relevant stakeholders.

I believe that the Standard, when it is eventually accepted and used by the Workplace Safety and Health [WSH] community-at-large, will elevate the WSH community to a higher level of professionalism, prestige, and competence. It will attract fresh talents who will find it rewarding to work as WSH professionals. For decades to come, the Standard will positively shape the WSH ecosystem in Singapore.

With the development of the Standard, SISO collaborated with INSHPO to initiate the Singapore Accord on the Standards for Occupational Health and Safety (OHS) Professionals. SISO led INSHPO’s Singapore Accord Steering Committee and on 3 September 2017, representatives of about 30 organisations from all over the world will gather in Singapore to witness the Singapore Accord Signing Ceremony. These 30 organisations have given their commitment to promote the use and acceptance of INSHPO’s Occupational Health and Safety [OHS] Professional Capability Framework. This will be a historic moment as the Singapore Accord will bring together the largest-ever gathering of OHS-related organisations to collectively commit to promoting the use and acceptance of a Framework as a common platform to develop capable, knowledgeable, and skilled OHS professionals and practitioners across industry sectors and geographic borders. I believe this Accord will positively shape the future development of the international OHS community and I am very humbled and grateful that SISO is able to play a small part in this historic moment. I am also very pleased that SISO is one of the first in Asia to adopt the Framework as its basis for the SISO
SISO Career Progression Pathway (CPP)

BACKGROUND
Over the past few years, Singapore has made dramatic progress in improving Workplace Safety and Health (WSH) education. This transformation followed the enactment of the Workplace Safety and Health Act (WSH Act), which replaced the previous Factories Act in 2006. The new Act emphasized individual responsibility and accountability for safety at the workplace. Under this Act, those who create workplace safety and health risks would be held accountable for removing or controlling those risks. This led to a demand for WSH Professionals (WSHPs), not only in the traditional and heavy industries but also in the new sectors which were encompassed in the WSH Act, to assist and support employers and organisations in ensuring safe workplaces.

Despite considerable efforts, fatalities and injuries continued to occur at workplaces. One approach adopted by the Ministry of Manpower (MOM) was to establish a new WSH training framework to train additional WSH Professionals (WSHP) to meet the demand from both the existing and new sectors.

In April 2009, MOM and the Workplace Safety and Health Council (WSHC) launched “WSH 2018: a National Strategy for Workplace Safety and Health for Singapore” during the annual National WSH Campaign. The purpose of WSH 2018 is to drive Singapore to achieve the target set by the Prime Minister in bringing down the national fatality rate from 4.9 per 100,000 workers to 1.8 per 100,000 by 2018. Concurrently, a target was set to increase the existing number of trained WSHPs to 19,000 by year 2018 (Lee, 2013 and WSHC, 2013). It was projected that this would meet the anticipated demand for WSHPs from the various industries, organisations and businesses.

Introduction Meeting with SISO Advisor, Mr Ng Chee Meng, Minister for Education (Schools) and Second Minister for Transport
By Quek Chin Tuan, Executive Manager, SISO, quekct@siso.org.sg

On 7 July 2017, SISO Executive Committee invited Mr Ng Chee Meng, Minister for Education (Schools) and Second Minister for Transport, for lunch for an introductory meeting with Minister Ng who had accepted SISO’s invitation to be the Association’s Advisor. In recognition of the National Trades Union Congress which facilitated the invitation to the Minister, SISO also invited Mr Vivek Kumar, Asst Director-General, NTUC, and Ms Angeline Lee, Deputy Director, U Associate, to the introductory lunch meeting.

During the meeting, Minister Ng shared his perspectives about workplace safety and health, in particular some of his personal experiences related to safety during his career with the Singapore Armed Forces. He also shared invaluable insights about “life-long learning”. In addition, he took time to listen to views expressed by each member of the SISO Executive Committee present at the lunch. He seemed particularly interested to know more about the challenges faced by the workplace safety and health (WSH) community. There were also interesting dialogue between Mr Vivek Kumar, Ms Angeline Lee and Minister Ng, particularly on how the labour movement is also reaching out to the PMET workforce in Singapore.

By the end of the lunch, SISO Executive Committee members were excited about how we could work with Minister Ng to achieve its mission and vision. Mr Bernard Soh, President, SISO, said, “The primary objectives of meeting Minister Ng today is to introduce SISO to the Minister, to find areas of alignment between the Minister’s perspectives and SISO’s overall objectives, vision and mission, and to explore how we can work with the Minister to achieve SISO’s mission and vision. From what transpired during this meeting, we are excited to discover several areas of conceptual and strategic alignment, such as the importance of “life-long learning” and how to position and promote Workplace Safety and Health. These areas of alignment will allow us to forge an effective, collaborative relationship with our Advisor. Thus, our next step is to plan and develop a strategic blueprint for working together with the Minister.”

One of the follow-up plans is to arrange for a dialogue session between Minister Ng and SISO members, so that the Minister could better understand the challenges faced by the WSH workforce. SISO Secretariat will soon announce the date of this dialogue session to its members.

(Continued on page 04)
This led to the development and introduction of a structured Workforce Skills Qualifications (WSQ) Workplace Safety and Health (WSH) Professionals framework by the then Workforce Development Agency (WDA). This framework consists of four qualifications, namely Certificate, Advanced Certificate, Specialist Diploma and Graduate Certificate in WSH, for persons wanting a career in WSH.

The Competency-Based Learning (CBL) model adopted in the WSQ-WSH framework, however, did not adequately equip the new WSHPs with the desired vocational skills, knowledge and attributes in order for them to perform their duties to the level expected of them. There was also no specific method or training for WSH professionals to further develop their competencies after course completion, other than acquiring a relevant WSH degree of one's own choosing.

However, all WSHPs are required to stay current with legislations, standards and codes, best practices, new technologies and solutions, etc and continue to keep themselves relevant and competent under a mandatory continuing professional development (CPD) program. In Singapore, it is a requirement for all WSHPs to be registered with MOM in order to practise as WSH officers. This registration allows one to practise as a WSHP subject to renewal every two years, under the CPD program. In addition, they must also demonstrate other important attributes such as integrity and be of good character and be physically and mentally fit. This is to ensure that the WSHPs can be entrusted with the duties imposed on them (MOM, 2007).

Prior to the introduction of the WSQ WSH Professionals framework launched in 2008, WSHPs were required to have a recognised diploma in Engineering or Science or Ergonomics or Occupational Hygiene before they could take up a rigorous Safety Officers Training program which consists of five modules with practical assignments and a written examination (OSH, 2005). Upon successful completion of the program, followed by 2 years' experience in WSH, these WSHPs could then be registered as practising WSHPs with MOM.

**CAREER PROGRESSION PATHWAY (CPP) - WHAT IS IT?**

As the de facto organisation in Singapore representing the WSH profession, Singapore Institution of Safety Officers (SISO) took the lead in developing a Career Progression Pathway (CPP) to provide both the new and current WSHPs with a plan to further enhance their competencies and capabilities and chart their careers. The Career Progression Pathway would equip WSHPs with enhanced and career-centric skills, knowledge, attributes, discipline, integrity, and a greater level of confidence in making decisions and influencing the decision makers within their organisations.

The WSH CPP is a 5-tier competency pathway that provides a career roadmap and identifies new and additional professional skills for continuous improvement and to elevate the WSHPs' competencies and capabilities. The CPP allows individuals to embark on and continue their learning journey from an appropriate stage of the Pathway, i.e. the Foundation, Building, Development, Grooming, and through to the Expert stage.

Each stage of the CPP expands the required capability in terms of skills and knowledge through ‘bite-sized’ modular learning acquired over a systematic learning journey. This then equips and enables WSHPs to stay employable, effective and relevant beyond their basic qualifications.

**WHY IS CPP IMPORTANT?**

Guided by the principles of Humanistic Orientation approach, the CPP will allow WSHPs to develop the appropriate cognitive, affective and psychomotor skills for making sound and ethical judgements. The Humanistic Orientation is a holistic approach that integrates cognitive, affective and psychomotor domains that moulds the mindset and develops personal growth (McNeil, 1985 and Print, 1993). It focuses on an individual's growth and development rather than using a set of predetermined criteria to develop an individual's learning capability.

CPP provides the opportunity to develop WSHPs to improve and expand the relevancy of knowledge and skills. Through a careful scaffolding of increasing complexity, WSHPs will embark on a life-long learning that explicitly exhibits consistency in areas such as technical content, learning objectives, communication and influencing skills. This process will gradually transform them on the career path that they desire.

To prime WSHPs for the future, the CPP is designed to:

- Serve as a reference and basis for gap analysis in relation to the capabilities of WSHPs and provide a pathway for their career development
- Provide a reference for employers and recruiters to assist in developing WSH job descriptions, and in recruiting the right WSHPs for their organisations
- Serve as benchmarks for performance evaluations and plan for the WSHPs' development
- Provide a reference for the community to better understand the scope and different competency levels of WSHPs.

In essence, the CPP is discovering the hidden gem in the individual and developing his or her WSH...
management career beyond his or her imagination.

**CAREER PROGRESSION PATHWAY – A SUMMARY**

This CPP is based on industry-agreed standards and benchmarked against The OHS Professional Capability Framework developed by the International Network of Safety and Health Practitioner Organizations (INSHPO). INSHPO is the global voice for the occupational health and safety (OHS) profession and comprises 15 OHS professional and certification bodies.

The CPP, which was first mooted in year 2013, serves to guide WSHPs in enhancing their competencies, knowledge, capability, attributes and creditability. It also provides a reference for employers and recruiters planning to hire or recruit suitable and competent WSHPs for their organisations according to their needs.

The competencies articulated in the CPP are classified into Job Enable and Organisation Enable Skills that chart out what a WSHP needs to move on through each learning stage. [See Figure 1]. This is done by identifying each individual's gaps, depending on the initial stage they fit into, and moving on through their learning journey using a set of five-point rating scale, developed based on Berliner's five stages of behaviour to develop expertise (Berliner, 1988 and 2001). The matrixes will be used to reflect three broad categories - Knowledge, Skills and Attributes under each domain throughout an individual's WSH journey, according to the increasing levels of complexity and indicate the expected performance of the WSHP at each tier.

**Job Enable Skills** – Competencies prescribed under this domain determine the essential skills, knowledge and behaviours needed to achieve the minimum standard of performance required at the workplace or by job requirements.

1. **Technical Competency** – The knowledge and skills required to complete a task.

2. **Methodological Competency** – The ability to take in workplace information and to respond with appropriate procedures as required of the job.

**Organisation Enable Skills** – Competencies prescribed under this domain determine the essential skills, knowledge and behaviours needed to fulfil an organisation's objectives:

1. **Managerial Competency** – Essential Leadership skills that allow the individual to be effective in his/her managerial role.

2. **Social Competency** – The ability to apply collaborative and communication skills in working with different stakeholders.

3. **Personal Competency** – The ability to reflect for self-knowledge so as to better understand and take on responsibilities for one's role.

To ensure consistency and effective performance outcomes at each level, a set of expected domains under each competency is designed to be assessed at different tiers as shown in Figure 2.

Each domain is further supported by a set of expected performance description statements.

The illustrated performance description statements under each domain areas are further defined by a five-point rating scale to reflect the expected performance of the WSHP at each tier.

The employer would be able to assign a rating on the proficiency of each performance description statement based on experience, peer appraisal or observation. This would also assist the employer in working out a training plan for the WSHP.

Each domain is supported by expected performance description statements which could be used as a reference guide by employers and recruiters to:

- Assist in developing WSH job descriptions
- Recruit the right WSHPs
- Serve as a basis for performance evaluations
- Plan a WSHP's development programme

Each expected performance description statement would integrate with a specific knowledge and skills matrix and serve as a self-profiling tool for the WSHP to identify gaps in relation to the required capabilities of WSHPs and provide direction for his/
## SISO Career Progression Pathway (CPP)

*(Continued from page 05)*

her career development plan. WSHPs would be able to use this set of matrix to profile each level of expertise based on their own knowledge and skill.

### CONCLUSION

Rapid changes in technology and applications in the workplace have increased the need for WSHPs to acquire enhanced and new skills in order to continue to be relevant and competent. The competencies required of the WSHP are critical as one is expected to bear the roles and responsibilities of preventing injury and harm to people and the environment, as well as damage or destruction to assets.

The CPP is a holistic and integrated model that helps individuals consider and set the goals they wish to meet, and organizations to set benchmarks for the right WSHP. This interactive and comprehensive CPP will not only enrich the skills and competencies of experienced WSH professionals but also enhance the professional skills and careers of new WSH professionals entering the industry.

If one is to regard the CPP as a means of deep skilling, up skilling and broad skilling the WSH Professional’s knowledge and competencies, then the CPP can be a liberating experience for a lifelong learner, as it is meant to be.

Please contact admin@siso.org.sg if you are interested to find out more information or embark on this journey.

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### Domains of Competencies

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<tr>
<th>Competency</th>
<th>Tier 1</th>
<th>Tier 2</th>
<th>Tier 3</th>
<th>Tier 4</th>
<th>Tier 5</th>
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<td>Organisation</td>
<td>Managerial</td>
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<td>Enable Skills</td>
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<td>Innovation Management</td>
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<td>Strategic Thinking</td>
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<td>Business Acumen</td>
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<td>Analytical Skills</td>
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<td>Leadership</td>
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<td>Passion to Drive</td>
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<td>Personal Branding</td>
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<td>Process Improvement</td>
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<td>Social</td>
<td>Motivating and Facilitating Reorganization Skills</td>
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<td>Conflict Resolution and Negotiation</td>
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<td>Problem-solving &amp; Decision-making</td>
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<td>Communication and Listening</td>
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<td>Conflict of Interest</td>
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<td>Adherence to Relevant Laws</td>
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<td>Integrity, Trust and Respect</td>
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<td>Professional Ethics</td>
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<td>Job Enable Skills</td>
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<td>Planning Ability</td>
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<td>Team Engagement</td>
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<td>Technical</td>
<td>WSH Hazards and their Elimination or Control</td>
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<td>WSH Management Systems and Principles</td>
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<td>WSH Legislation and Standards</td>
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<td></td>
<td>WSH Technical, Science and Engineering Knowledge</td>
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<td>WSH Human Elements</td>
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*Fig. 2. Domains of Competencies*
### Five-point Rating Scale for Knowledge

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<thead>
<tr>
<th>Category</th>
<th>Description</th>
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<tbody>
<tr>
<td>Awareness</td>
<td>Ability to understand and recognise relevant knowledge and start to build practical knowledge outside of subject matter</td>
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<tr>
<td>Routine Application</td>
<td>Ability to apply relevant knowledge to routine or familiar situations, and start to build strategic knowledge</td>
</tr>
<tr>
<td>Comprehensive Application</td>
<td>Ability to integrate and apply relevant knowledge to specific situations and start to relate practical knowledge to an overall situation</td>
</tr>
<tr>
<td>Evaluative Application</td>
<td>Ability to evaluate overall situations and start to develop strategic knowledge of when to apply rules stringently</td>
</tr>
<tr>
<td>Creative Expertise</td>
<td>Ability to understand new or unexpected situations and apply appropriate concepts and knowledge critically</td>
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### Five-point Rating Scale for Skills

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<thead>
<tr>
<th>Category</th>
<th>Description</th>
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<tbody>
<tr>
<td>Awareness</td>
<td>Ability to understand the need for and general principles of application of the skill but conform to rules and procedures</td>
</tr>
<tr>
<td>Routine Application</td>
<td>Ability to demonstrate and apply the skill independently to routine or familiar situations</td>
</tr>
<tr>
<td>Skilled Application</td>
<td>Ability to perform and complete task and objective by applying complex skills confidently and effectively</td>
</tr>
<tr>
<td>Adaptive Application</td>
<td>Ability to perform and modify actions to complete a new task and objective without hesitation</td>
</tr>
<tr>
<td>Creative Expertise</td>
<td>Ability to create new ideas to solve a particular situation or specific problem, based upon highly developed skills</td>
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### Five-point Rating Scale for Attributes

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Awareness</td>
<td>Ability to demonstrate willingness to learn, receive and participate in activities</td>
</tr>
<tr>
<td>Routine Application</td>
<td>Ability to demonstrate willingness to show interest and react to new information</td>
</tr>
<tr>
<td>Value Application</td>
<td>Ability to demonstrate willingness to appreciate and accept new practices/information</td>
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<tr>
<td>Organisation Application</td>
<td>Ability to demonstrate willingness to clarify and conceptualise values/information by resolving conflicts and organizing them according to priority most of the time</td>
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<tr>
<td>Creative Expertise</td>
<td>Ability to demonstrate behaviours and capabilities of practicing their values or beliefs consistently beyond expectation</td>
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</tbody>
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**References**

Message From Mr Bernard Soh,
President, SISO
(Continued from page 02)

WSH Professional Standard and is, in fact, working on getting the Standard adopted nation-wide in Singapore.

Besides doing our part in the international arena, SISO is also collaborating with an ever-growing number of government authorities, WSH-related associations, trade unions, and WSH-related companies. I would like to sincerely thank our partners - particularly the Ministry of Manpower, the Ministry of Education, the Land Transport Authority, Singapore Civil Defence Force, the Workplace Safety and Health Council, the Workplace Safety and Health Institute, the National Trades Union Congress, National Fire and Civil Emergency Preparedness Council, the Employment and Employability Institute, Sport Singapore, and Skills Future Singapore, and associations like the National Safety Council of Singapore, the Fire Safety Managers Association Singapore, the Institution of Engineers, etc. - for their invaluable cooperation and assistance provided for the scores of joint-programmes conducted. In view of space constraints, I would just like to highlight one particular joint programme conducted.

In August 2016, SISO collaborated with the Ministry of Manpower to conduct a pilot programme called the Mobile Work-at-Heights Safety Clinic. SISO members volunteered to participate in the Work-at-Heights training before visiting 20 construction worksites to conduct mobile work-at-heights safety clinics with more than 1,000 workers on site. This pilot programme was very successful and generated very positive feedback. Thus, I am pleased to share that SISO is now collaborating with the Workplace Safety and Health Council for the 2017 edition of the Mobile Work-at-Heights Safety Clinic. This time around, more SISO member-volunteers have been recruited, so that hopefully, we can reach out to more workers at more worksites.

SISO also continues to develop life-long learning initiatives. Under the SISO Career Progression Pathway (CPP), we have launched courses such as the Workplace Safety and Health (WSH) Leadership Programme and courses related to soft skills like communications, financial management, innovation, and managing multi-generational workforce. These courses are developed to help WSH Officers progress further in their career paths by plugging gaps in their portfolio of marketable skills and knowledge. It would be remiss of me not to acknowledge the tremendous assistance and support for our CPP programme that SISO had received from our partners, like Skills Future Singapore, the National Trades Union Congress, the Employment and Employability Institute, and the Workplace Safety and Health Council.

We are working on many more programmes. But for now, we will focus on making final preparations to welcome the global OHS community to Singapore for the World Congress and other events coinciding with the World Congress. To ensure everyone in Singapore has a chance to participate in the World Congress, SISO has offered to sponsor a limited number of World Congress tickets for local WSH professionals who are presently in-between jobs and struggling.

To fund these sponsored tickets, SISO will produce and sell World Congress souvenirs during the four-day event. We hope that through these souvenirs, our overseas guests will be able to take home with them mementoes that will forever remind them of their happy days in sunny Singapore. At the same time, the purchase of these souvenirs will indirectly help WSH professionals who are presently unemployed attend the World Congress. I believe this is a beautiful equation of balancing social responsibility and helping to deliver a super-successful World Congress!

May you achieve all your objectives for attending the World Congress, INSHPO ABM and/or APOSHO 32 AGM.

Cheers,

BERNARD SOH
President
Singapore Institution of Safety Officers
According to Singapore’s Ministry of Manpower (MOM) website,* The Ministry of Manpower (MOM) will be introducing a set of MHI Regulations under the Workplace Safety and Health Act (WSH Act) to implement the Safety Case Regime and streamline existing Safety, Health and Environment [SHE] regulatory requirements for Major Hazards Installations (MHIs)." The website says that this change will take effect in 2017.

This short essay attempts to briefly describe the Safety Case, and its potential and challenges with some words of suggestions for the affected industries and their regulators.

**WHAT IS THE “SAFETY CASE”?**

The Safety Case, as a new regulatory regime or paradigm, has shown lots of potential, as demonstrated in the UK and Norway offshore oil industries. Safety Cases legislations adopted by countries such as United Kingdom and Norway from as early as 1974, emphasise on the importance of transitioning the ultimate responsibility of achieving and maintaining safety from the regulator to the industry itself. The responsibility of ensuring safety lies on the person assigned to the specific activity (the duty holder), which “usually are the employees” and “those supplying material and equipment for use in the workplace.”

According to a US legal scholar, safety cases are a hybrid mix of “performance-based” regulation and “voluntary self-regulation” [Steinzer, 2011]. Safety Cases are defined as “…a risk-based argument that has been said that in contrast with the “old” prescriptive ("reactive") regulations, “Safety Case” is a proactive approach in demonstrating the safety of the industry. Its purpose is to “provide a structured argument, supported by a body of evidence that provides a compelling, comprehensible and valid case that a system is acceptably safe for a given application in a given context”.

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**WHAT IS THE “SAFETY CASE”?**

The Safety Case, as a new regulatory regime or paradigm, has shown lots of potential, as demonstrated in the UK and Norway offshore oil industries. Safety Cases legislations adopted by countries such as United Kingdom and Norway from as early as 1974, emphasise on the importance of transitioning the ultimate responsibility of achieving and maintaining safety from the regulator to the industry itself. The responsibility of ensuring safety lies on the person assigned to the specific activity (the duty holder), which “usually are the employees” and “those supplying material and equipment for use in the workplace.”

According to a US legal scholar, safety cases are a hybrid mix of “performance-based” regulation and “voluntary self-regulation” [Steinzer, 2011]. Safety Cases are defined as “…a risk-based argument that has been said that in contrast with the “old” prescriptive ("reactive") regulations, “Safety Case” is a proactive approach in demonstrating the safety of the industry. Its purpose is to “provide a structured argument, supported by a body of evidence that provides a compelling, comprehensible and valid case that a system is acceptably safe for a given application in a given context”.

*Changes To Major Hazards Installations Regulatory Framework – [http://www.mom.gov.sg/newsroom/speeches/2015/] media/912cb13a3580483d837095568febbdc70.ashx*
Safety Case consists of few critical components: identifying all risks associated with a particular system, putting in place appropriate risk controls and processes in monitoring the safety performance of the system on an ongoing basis. The primary function of implementing Safety Case is to prove that a system is critically safe and that the risks associated with it is reduced to “As Low As Reasonably Practicable (ALARP).”

and corresponding evidence to demonstrate that all risks associated with a particular system have been identified, that appropriate risk controls have been put in place, and that there are appropriate processes in place to monitor the effectiveness of the risk controls and the safety performance of the system on an ongoing basis” (The Health Foundation, 2014, p.7). Its purpose is to “provide a structured argument, supported by a body of evidence that provides a compelling, comprehensible and valid case that a system is acceptably safe for a given application in a given context” (The Health Foundation, 2012, p. 7).

Safety Case consists of few critical components: identifying all risks associated with a particular system, putting in place appropriate risk controls and processes in monitoring the safety performance of the system on an ongoing basis. The primary function of implementing Safety Case is to prove that a system is critically safe and that the risks associated with it is reduced to “As Low As Reasonably Practicable (ALARP).” This implies that the industry has to demonstrate that all appropriate “measures have been taken to reduce the likelihood of hazards, and to mitigate their consequences” (The Health Foundation, 2012, p. 9). In addition, “further risk reduction must be carried out unless the cost of the reduction measure, which include non-financial factors such as time, trouble or loss of capability), is grossly disproportionate to the safety benefit gained” (Inge, 2007, p. 2). This requires a proactive approach in which predictive elements must be used to foresee any possible hazards, rather than achieving compliance with detailed prescriptive technical regulations.

The most recent allusion and consideration of implementing the Safety Case approach for the US oil refinery industry took place after the catastrophic pipe rupture and fire at Chevron refinery in Richmond, California on August 2012, by the U.S. Chemical Safety and Hazard Investigation Board (CSB). According to CSB, Safety Case “is much more than a written report”, rather, it represents a fundamental change by transitioning the responsibility for continuous reductions in major accident risks from regulators to the company” [U.S. Chemical Safety and Hazard Investigation Board, 2013]. This approach is a performance-based or goal-setting approach focusing on achieving desirable outcomes – in this case, safety of the industry.

Structurally, Safety Case is made up of three key components: claims, arguments and evidence - claims refer to defined safety objectives to be achieved and argument “communicates explicitly how the safety evidence relates to and satisfies claims about a system’s safety” [The Health Foundation, 2012, p. 5]. There are no specific structures of arguments or types of evidence as they vary depending on the type of industry involved.

However, a Safety Case should generally address the following areas:

- The scope of the system and its operational context.
- The safety claims and their corresponding criteria.
- Overview of how possible hazardous scenarios are being identified and how related risks are being assessed.
- Rationale of implementing selected risk control measures and description of their effectiveness.
- Evidence demonstrating proper identification of risks and acceptable level of residual risk.
- The organisational structure, policies, roles and responsibilities of the safety management system.
There are, however, few key features that must be put in place for an effective implementation of Safety Case, as will be discussed in the next section.

**A NECESSARY CONDITION AND FOUNDATION FOR SAFETY CASE: SAFETY CULTURE**

Safety Case is built upon the idea that the industry is responsible to provide necessary analysis and supporting details in proving that they have lowered the associated risk as low as possible and obtained regulators’ agreement on the document. The judgment of the risk level is very difficult to be determined: what level of evidence is sufficient for a given system? As such, it becomes “an engineering judgment, based on the experience of those managing safety and their advisors” [Inge, 2007, p. 5]. This requires the involvement of extremely competent experts, whereas a prescriptive approach only requires managers to achieve compliance “by following rules rather than making decisions” [Inge, 2007, p. 5]. Furthermore, more resources must be invested in order to hire these experts, both for the industry and the regulator (especially essential for the regulator in order to have qualified Safety Cases). The necessity of talents and the requirement of high wages to attract them are two intertwined challenges that must be overcome, or at least addressed, before an effective Safety Case can be implemented.

The subsequent challenge lies in the ability to practise and maintain the safety standards of the Safety Case implemented. A new approach requires not just investment of talents and resources, it also requires continuous organisational commitment to ensure that a strong mindset of upholding the new standards thrives within the organisation/industry. This is a long term commitment in which each duty holder is responsible to maintain and update, if necessary, the safety elements of his/her tasks.

The industry would also have to demonstrate a strong leadership that display their serious commitment to upkeep such strong safety culture [Meshkati, 2016].

Hence, an organisation has to be able to instil a strong and engaged safety culture for such fundamental change. This culture should not only include the safety culture of the operating plant, e.g., a refinery, but also its holding company, industry sector as well as responsible federal regulatory and state/local designated oversight agencies. The safety culture and capability of regulators, the adequacy of their resources in terms of competent manpower with needed technical skills are also of paramount importance. For instance, according to study conducted by the State of California in July 2016, adopting the Safety Case for only 20 refineries in California, is estimated to require “fourteen fold increase” in the staff for California cognizant regulatory agencies.

Subsequently, there is a need for matured safety culture (of the industry) as a prerequisite for adopting and implementing Safety Cases. Safety culture maturity is precisely a conclusion and a recommendation of a seminal recent research report [Health Foundation of the UK, December 2012]:

*Lessons and recommendations for healthcare...The safety culture in the industries reviewed in this report may be more mature than the current safety culture in healthcare, with patient safety still being a recent and emerging discipline. This may suggest that Safety Cases should only be adopted in those contexts*

where there is a good level of safety maturity, both on principles and methods...

The adoption of Safety Cases needs to be accompanied by appropriate guidance and training as well as a continuing development of safety culture maturity.

Moreover, according to a new report by the UK Office for Nuclear Regulation (ONR), common problems with safety cases that have been encountered by the ONR deal with their “Intelligible, Valid, Complete, Evidential, Robust” issues/aspects that should be seriously reckoned with [UK ONR, July 2016].

Finally, according to the internationally renowned scholar and author of five seminal books on human error, systems failures and organisational accidents, Professor James Reason [1997, p.182]:

(Continued on page 39)
September 2017 marks the start for the implementation of the Workplace Safety Health [Major Hazard Installations] Regulations 2017.

Recent talks about Safety Case regimes in the local context have been surfacing more regularly than usual. While Safety Cases are not something new to professionals in industries dealing with high-risk processes, it has become the latest talk of the town ever since the Ministry of Manpower (MOM) set up the Inter-Agency Taskforce to review the existing frameworks for MHIs in Singapore.

WHAT DOES THIS MEAN FOR MAJOR HAZARD INSTALLATION (MHI) OWNERS?

Basically these regulations, which were gazetted in May 2017, will require stricter regulations to register MHIs. They also make the submission of Safety Cases necessary, and the notification and reporting of incidents essential to maintain a proper framework:

The Regulations will require MHIs to demonstrate the risk reduction measures in place are effective, reliable and the risks of major hazard accidents have been reduced to ALARP (As Low as Reasonably Practicable) to allow the installations to operate in a safe and sustainable manner. In ensuring that the Safety Case is kept effective and updated, the Regulations will require occupier of MHIs to maintain and submit a Safety Case for assessment once in every five years. In addition, occupiers are also required to review a Safety Case when there are new facts, knowledge or changes which are significant in preventing or limiting the impact of a major accident.

– Gazette of WSH Major Hazard Installation (MHI) Regulations 2017

BUT WHAT IS A SAFETY CASE AND WHY DOESN’T EVERYONE USE IT YET?

In essence, a Safety Case is a structured document that highlights safety aspects including evidences of hazards and risks and how to mitigate them for all aspects of a facility.

Although Safety Case regimes are available in many countries, many owners and operators of Installations often disregard its importance due to the inherent nature of a Safety Case as being “a bulky document” that is inconvenient to go through. This is one of the assumptions people have about Safety Case that prevents them from creating one that will actually be extremely beneficial in keeping their operations running smoothly and safely.

With almost 10 years of experience in preparing Safety Cases for clients, NRG Engineering has come across various assumptions of what a Safety Case is and the purpose it serves. In this article, we list out some of the more popular myths and help you debunk them.

Myth #1 - A Safety Case is a case study for every past safety-related incident.

No. A Safety Case is in fact a tool that helps companies bring risks from the world of unknown to the known!

In summary, a Safety Case is a document produced by the operator of a facility to demonstrate that an operation or facility is safe to operate. This helps to:

• Identify the hazards and risks;
• Describe how the risks are controlled;
• Describe the Safety Management System (SMS) in place to ensure the controls are effectively and consistently applied.

NRG Engineering’s safety consultants have prepared many such Safety Cases to meet the above-mentioned objectives and to describe the facility and the way in which the facility operates. It also demonstrates that all identified hazards, their potential effects and risks to life have been rigorously and systematically identified, and that Design and Operational performance criteria for all identified Safety Critical Events (SCEs) have been established.

Myth #2 - We need extensive documentation to come up with the Safety Case.

Regulators from Singapore, United Kingdom and Australia have set in place the requirement to develop a formal Safety Case for several years now. Still, after years of speaking to industry practitioners, we have noticed a similar trend across decision-makers: that the Safety Case is a hassle. Having to implement it requires creating a handful of complicated documents that nobody is familiar with.
That, however, is not the case. Majority of the Major Hazard Installations will have the basic safety installations covered. The information that is already set in place is a great starting point to develop the Safety Case. Thus, there is no need to go back to the drawing board and start from ground zero. Here are some of the things companies can use:

- Experience
- Formal Safety Assessments
- Qualitative Risk Assessment
- Risk Registers

**Myth #3 - Only the management representatives need to sit in to prepare the Safety Case.**

Not at all. In fact, it is more important for hands-on personnel such as engineers, operators and safety personals to be involved in the process of preparing the Safety Case for they are the ones who are aware of the facility as a whole.

It is recommended that everyone involved in the day-to-day operations have an input on the Safety Case to create a concise document that is relevant to the facility described.

**Myth #4 - The Safety Case is guaranteed to prevent incidents.**

Although this would be every safety practitioner’s dream, a Safety Case is not a hundred percent guarantee in preventing incidents. What the Safety Case can do is:

- **Protect lives:** The Safety Case is a thorough document on how to operate the facility in the safest manner possible. Therefore, it minimises the chances of major accidents that helps to, in turn, save personnel working on the facility from harm.

- **Manage business assets:** While human-related accidents can be minimised with the help of safety regulations, ways to conduct operation processes safely are also described in the Safety Case in hope to protect business assets from damage.

- **Maintain Competency:** The combination of ensuring lives are protected and assets are taken care of will help reduce lost production for the facility. In addition, the Safety Case acts as a standard guide for safe operations and allows operators to maintain competency across the board.

**Myth #5 - Once the Safety Case is completed, I can file it in my archives.**

Do not allow the Safety Case to sit on a shelf that is locked away or hidden in one obscure corner of the office. It has to be read and understood by relevant personnel. Awareness of the Safety Case isn’t enough, the organisation has to live and swear by it.

**GAZETTE OF WSH MAJOR HAZARD INSTALLATION (MHI) REGULATIONS 2017**

The Workplace Safety and Health [Major Hazard Installations] Regulations 2017 and Workplace Safety and Health [Registration of Factories][Amendment] Regulations 2017 have been gazetted on 2nd May 2017. It will come into operation on 1st September 2017.

Key provisions of the WSH [MHI] Regulations are:

1. **Registration of MHIs:** Under the Regulations, workplaces which carry out specific trade activities and possess dangerous substances at or above a specified threshold quantity will need to be registered as MHI prior to operation. Previously, such premises are required to be registered under the WSH [Registration of Factories of Factories] Regulations. The WSH [Registration of Factories] Regulations have been amended to require such workplaces to be registered under the WSH [MHI] Regulations instead.

2. **Safety Case review and submission:** The Regulations will require MHIs to demonstrate that the risk reduction measures in place are effective, reliable and the risks of major hazard accidents have been reduced to ALARP (As Low as Reasonably Practicable) to allow the installations to operate in a safe and sustainable manner. In ensuring that the Safety Case is kept effective and updated, the Regulations will require occupier of MHIs to maintain and submit a Safety Case for assessment once in every five years. In addition, occupiers are also required to review a Safety Case when there are new facts, knowledge or changes which are significant in preventing or limiting the impact of a major accident.

3. **Mandatory sharing of information:** To manage potential domino effects in the event of an accident, MHIs will be required to share information pertaining to the nature and extent of off-site risks which may affect other workplaces within area. This will allow the affected neighbouring workplaces to factor in this information in their risk management processes and emergency response plan.

4. **Notification and reporting of incidents:** The proposed Regulations will require MHIs to notify and report any process-related incidents which have led to explosion, fire or release of dangerous substances, including those which do not result in any injury or fatality. This serves to alert regulators about potential systemic issues within the MHI industry and the lessons learnt from such incidents can be shared with the industry.

Consequential amendments are made to the WSH [Registration of Factories] Regulations requiring MHIs to register their premises as an MHI under the WSH [MHI] Regulations.

Kindness Contributes to Workplace Safety

My simple thesis is that kindness to ourselves and to our colleagues promotes workplace safety. This is how it works.

A. There is a high level of stress at the workplace
B. Stress negates workplace safety
C. Kindness reduces stress
D. Therefore, kindness contributes to workplace safety

A. THERE IS A HIGH LEVEL OF STRESS AT THE WORKPLACE
According to a survey by Roffey Park, a leadership institute, executives in Singapore spend more hours at work than counterparts in Hong Kong and China (BT Aug 27, 2017). 52% of the 1,000 executives surveyed said their stress level has gone up over the last six months. Forty per cent identified office politics as a major stressor; 35% pointed to workload and 35% cited lack of support.

Long working hours is also identified as contributory to workplace stress. More than 40% said that they work more than 50 hours a week. Specifically, 27% said that they worked 51-60 hours a week, and 16%, more than 60 hours.

JobsCentral surveyed 2,281 of workers from all levels of occupation and income groups in 2017. They found 66% complained that their workload has increased when compared with six months ago. 83.3% said that their work stress has also increased in the last six months, while 11.1% that stress level has decreased and 15.5% indicated that it has stayed the same.

60% of the respondents reported that they stay in the office for at least an hour after work hours at least three days a week. One in three (32%) said they bring their work home to complete, 22% said they have worked from home while on sick leave and close to one-fifth (18%) said they have worked while on vacation.

“Singapore’s workplace environment is a tough and demanding one. Workers place career as one of the top priorities in their lives and often make personal sacrifices for job advancements. On the other hand, employers, faced with increasing manpower cost, embark on the unending quest for higher productivity. It is not surprising that our workers are feeling more stressed and working longer hours,” says Michelle Lim, COO of JobsCentral Group.

Technology also increases the employers’ expectation of employees to work anywhere and anytime. Workplace bullying is also rampant, with 24% saying that they feel bullied at work. Of these, 74% indicated that colleagues are the biggest bully; 62% were bullied by their superiors and 21% by their clients. The largest group bullied is in the age group of 41-50, more females were bullied than males and administrative staff were more vulnerable.

A stressed worker is more likely to be anxious, depressed, tired, irritable or short-fused. He is also more likely to experience simple ailments like loss of appetites, frequent headaches and more severe episodes of cardiovascular disease, musculoskeletal disorders, psychological disorders and impaired immune systems.

A stressed worker’s morale would be badly affected and in thinking about his or her stress source, could become more anxious and less focused on the task at hand. Many industrial accidents and injury are caused by lack of concentration on the part of the workers. In some cases, attempts to relieve stress by alcohol or medication can also cause distraction, negative effect on the ability to focus and impair reflexes affecting reaction time.

B. STRESS NEGATES WORKPLACE SAFETY
According to Safety + Health magazine, stress contributes to an increase in workplace accidents. Dr. David Spiegel, medical director of the Stanford Center on Stress and Health, found a direct correlation between an increase in worker stress and an increase in workplace accidents. “It’s very clear that a big proportion of safety problems are due to human error, and some of that is related to stress,” Spiegel said. “Life is full of stress. If you’re not stressed, you’re dead. But the thing about handling stress well is being able to appraise it, react to it appropriately and put it behind you. You need to be concerned as a manager for the overall health of your employees.”

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Stress, industrial experts say, is a legitimate worker safety and health issue and it affects workers across every industry, without regard to gender, race and experience.
C. KINDNESS REDUCES STRESS
To reduce stress of workers, some companies offer gym memberships, standing desks, or company-sponsored outings. Prof Maryam Kouchaki, of the Kellogg School of Management, suggests that companies foster “psychological safety” in an organisation. Psychological safety can mean allowing people to express themselves in constructive ways—for example, by giving employees more opportunities to voice their opinions in a kind and friendly environment. This is where fostering a kind working environment will help reduce stress, resulting in enhancing workplace safety.

Allan Luks of the Center for Non-profit Leadership at Fordham University found a clear cause-and-effect relationship between helping and good health. Luks concluded, “Helping contributes to the maintenance of good health, and it can diminish the effect of diseases and disorders serious and minor, psychological and physical.” His study is documented in his book, The Healing Power of Doing Good: The Health and Spiritual Benefits of Helping Others.

There is evidence to show that the act of being kind releases endorphins, the body’s natural painkillers. It induces a long-lasting period of calm and improved emotional well-being. Apparently, stress-related health problems clearly improve after performing kind acts. Helping others reverses feelings of depression, supplies social contact, and decreases feelings of hostility and isolation that can cause stress, overeating, ulcers, etc. Helping others increases our sense of self-worth, our feelings of joyfulness, emotional resilience and vigour, and decreases the feeling of helplessness and depression. A drop in stress may, for some people, decrease the constriction within the lungs that leads to asthma attacks.

Establishing an “affiliative connection” with someone—a relationship of friendship, love, or some sort of positive bonding generates emotions that can strengthen the immune system. This is confirmed by numerous scientific findings that the act of kindness has a positive effect on the immune system and on the increased production of serotonin in the brain. Serotonin is a naturally occurring neurochemical that has a calming, mood regulating, and anti-anxiety effect and is regarded as a “feel good” substance because it serves as a pathway for pleasure in the brain.

What’s even more amazing is that persons observing the act of kindness also experience a similar strengthening of the immune system and increased production of serotonin! Kindness is a win-win-win scenario which produces beneficial effects in the giver, the recipient and the observer.

D. THEREFORE, KINDNESS CONTRIBUTES TO WORKPLACE SAFETY
If, in fact, kindness reduces stress, and stress negates workplace safety, then kindness contributes positively to workplace safety. And it does so for the following reasons in practical terms:

- Kindness makes us happier. The good feeling that kindness generates is due to elevated levels of the brain’s natural versions of morphine and heroin, which we know as endogenous opioids. They cause elevated levels of dopamine in the brain, so we get a natural high, often referred to as “Helper’s High.”

- Kindness makes our heart healthier. Acts of kindness produce the hormone oxytocin in the brain and throughout the body. Oxytocin causes the release of a chemical called nitric oxide into blood vessels, which dilates the blood vessels and thus reduces blood pressure. This ability to lower the blood pressure makes oxytocin a “cardio-protective” hormone because it protects the heart by reducing blood pressure.

- Kindness generates better relationships. We like people who show us kindness, and vice versa. This is because kindness reduces the emotional distance between two people, so we feel more “bonded.” When we are kind to each other, we feel a connection, and new relationships are forged, or existing ones strengthened.

- Kindness is contagious. Kindness breeds kindness. Just as a pebble creates waves when it is dropped in a pond, so acts of kindness ripple outwards, touching lives and inspiring kindness everywhere the wave goes. The idea of “Paying Forward” comes from the ripple effect of kindness—the beneficiary of kindness paying forward by benefitting others with kindness the way he/she has benefitted from others.

A recent scientific study reported that an anonymous 28-year-old person walked into a clinic and donated a kidney. It set off a "pay it forward" type ripple effect where the spouses or other family members of recipients of a kidney donated one of theirs to someone else in need. The New England Journal of Medicine reported that 10 people received a new kidney as a consequence of that anonymous donor.

There is no doubt that when kindness is rooted in an organisational culture, the workplace will become more pleasant and less stressful. There will be greater synergy, employee engagement and more positive working relationships. This translates into a safer workplace because when people care enough to build kind relationships, watching out for each other’s safety is part of our spontaneous response.

Indeed, when we practise kindness at work, there will be a more motivated workforce, higher retention and increases in performance and productivity: Positive relationships at work mitigate on-the-job stress, and thus enhance work safety. Kindness builds kinship and kinship leads us to look out for each other.

If you wish to know how to generate kindness@work, please write to us at kindness@kindness.sg ✓
One of the core responsibilities of a leader is to set the tone for a company’s culture. They do so through their actions and decisions. Culture is not something a leader can delegate to the Safety Manager. He needs to do it himself, because other staff are looking to him.

1. More Programs And Activities Do Not Mean Better Safety Performance

A kangaroo at the zoo kept escaping from his enclosure. To keep him inside at night, the zookeepers constructed a 3 metre high fence around his habitat. The next morning, they found him wandering freely again. This time round, the zookeepers constructed a 6 metre fence; but the next day he was loose again. So, the zookeepers began construction for a 12 metre fence which they were sure would keep the kangaroo in his enclosure. Watching the men at work, the camel in the neighbouring enclosure stuck his head over to the kangaroo’s side and asked, “How high do you think they will make it?” The kangaroo replied, “Not sure, but it doesn’t matter... Unless they remember to lock the door this time.”

When accident rates were high, I used to implement more programs: more training, more inspections, and more briefings. When results remained the same, I further increased the frequency of the activities; just like the zookeepers. I have learnt that activities do not necessarily translate to results, unless they target the weak links.

To improve safety, it is not possible or necessary to do everything. Your safety performance is only as strong as its weakest link, so you need to first find out where the “unlocked doors” are in your safety system.

One of the best ways to discern weak links is to simply ask the stakeholders. Like the camel in the story, be curious and ask your frontline workers. Being closest to the action, they can offer a frontline perspective on organisational issues as well as practical solutions.

2. A Strong Business Case Is Not Enough To Drive Changes

When BK Tan became the warehouse manager of a SME, his first order of business was to “step up the safety performance.” There had been several forklift incidents and manual handling injuries, all of which were preventable. Two weeks later, he gathered his team of 15 forklift drivers and briefed them about the new forklift inspection checklist which he was going to implement.
His message was concise and well thought out:

- Accident numbers have been rising, and 50% of the increase was due to forklift operation.
- A pre-operation checklist ensures the efficient and safe operation of the forklift.
- The checklist is considered a standard practice in the logistics industry.
- It will take less than 10 minutes to complete the checklist.

BK could sense the drivers’ reluctance from their body language. “Any comments on this initiative?”, he asked at the end of the session.

One old driver said, “We have been so busy already. Why are you giving us additional work? For you, it takes less than 10 minutes. For me, who does not have much education, it will take much longer.” Several drivers nodded in agreement.

Another driver chimed in, “Such inspection is just meaningless paperwork. The most important thing in safety is simply to be careful when driving a forklift. I have been a forklift driver for 10 years, and I’ve never had an accident.”

Another shrugged his shoulders and remarked in a defiant tone, “You are the manager here. Whatever you say, we have to do. Can we say ‘no’?”

BK realised at that moment that forcing the initiative through would create unhappiness, and that drivers would simply go through the motions in completing the checklist. He thanked the drivers for their feedback and said he would reconsider before taking any further actions.

One month later, BK asked the drivers to return for training on a Saturday morning. However, this time the venue was different: it was at the warehouse of their client. BK planned the timing such that his drivers would see an actual forklift inspection taking place. His drivers observed as drivers from the client’s side circled their respective forklifts, ticking off each checklist item. The process was short and smooth. Soon after, two forklift drivers from the client’s side shared their experiences using the checklist, as well as personal stories of forklift accidents. Their messages were reassuring and convincing.

Two days later, the forklift checklist was implemented at BK’s warehouse. The drivers’ level of resistance had dwindled and their attitude had become much more positive.

BK’s initial attempt to use a business case failed. Typically in a business case, facts, figures, and logic are used to demonstrate that an issue is important and that a course of action ought to be taken. The problem with a business case is that it can win over minds, but will rarely win over hearts.

I have learnt that change is not a function of knowledge, but of motivation.

People need to feel a sense of urgency to move forward from status quo. In fact, Prof. John Kotter, Organizational Change Guru, highlighted that the path of change is not Think-Analyze-Change, but See-Feel-Change. By bringing his drivers to the client’s warehouse, BK used the See-Feel-Change approach. He connected his people to external realities, and enlisted other forklift drivers to make an emotionally compelling case to adopt the new checklist.

3. The Most Important Role Of A Leader Is Not To Provide Budget

I used to believe that the most important role of a leader is to provide budget. As long as the leader provides sufficient budget for training, equipment and headcounts, he or she can step aside for the safety department to do its job. Now, I have a different answer: “personal commitment.” I believe that when a leader is personally committed to safety, he or she will define the narratives in safety and shape...
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Managing Expectations When Managing WSH

A. Current Situation
If you ask any employee a question like, “Who do you believe is responsible for WSH in your organization?” The answer is usually an interesting one because the top two most common responses are:

1. The WSH Officer
2. The management or owners

This can reasonably be taken to mean that in many organisations, people actually believe SAFETY depends on what the above two parties do or do not do. If you want to discuss any Safety or Health issues, then go talk to the WSH Officer or management because it is their responsibility. The subject has nothing to do with the employees themselves.

When you talk to the management or owners on WSH matters, it will be a similar experience of hearing them say, “Wait, let me call the WSH Officer. He’s the one in charge of safety issues.”

What then happens when you talk to the WSH Officer? In many cases, you will find him literally doing everything or be highly involved in everything related to WSH every department and every function in the organisation – in other words, he carries the baby.

If you are thinking right now that this situation is not good and unsustainable, guess who takes care of Safety in organisations that do not have a WSH Officer? No prizes if you guessed “NOBODY.”

It really doesn’t matter how widespread the current situation really is because the central message of this reality is that we cannot allow it to continue. What would be a better situation if we could accept progress and embrace safety and health issues in every workplace? We shall explore this in the next section of this article.

B. Desired Situation
The person who can possibly be injured or suffer health issues at work must take ownership and responsibility for his own personal safety & health. This forms part of the organisational performance appraisal system can be decided by how effectively and fairly it can be implemented in the organisation.

Every supervisor, manager or “boss” regardless of designation must also take responsibility in ensuring that his employees can work safely through adequate instruction, procedure, tools, supervision etc. This must be part of his role as a boss and he needs to be accountable for it.

Collectively, management must take it upon themselves to be overall accountable that the organization prioritises safety and health in practice and champion a culture supportive of good WSH. Ignorance of proper WSH requirements and inability to implement practical solutions to adequately protect every single worker or person must be deemed unacceptable.

Every organization in any sector or industry and whether large or small, local or foreign must be clear of the 5 compliance requirements in the Risk
Management (RM) Regulations as a basic operational competency and have them as standard agenda for all their management, department, operational and board meetings.

In short, the 5 compliance requirements should be understood in clear and simple terms so that everyone can follow in practice. They are:[in simple terms].

**Para 3 of RM Regulations** –
Every official work or duty that is performed by any worker must have a Risk Assessment (RA). The work process owners must participate in its development and review. All work must be covered, not just high-risk work and not just work done every single day. Expect to have more than one RA as each work process should have one RA.

**Para 4 of RM Regulations** –
Where possible, identified risks should be solved by either a) totally removed or if this is not possible then b) managed, controlled or reduced to As Low as Reasonably Practical (ALARP) using measures acceptable within the Regulations and there must be applicable Safe Work Procedures (SWP).

**Para 5 of RM Regulations** –
The RA and SWP must be updated and maintained so as to remain suitable, relevant and effective in practice. This is paperwork essentially.

**Para 6 of RM Regulations** –
The organisation must have a system in place to ensure effective communication to persons at work such that they know, understand and are able to put into practice at work, the RA and SWP requirements and measures. Communication is an everyday thing and NOT a one-off training or briefing as many think it to be.

**Para 7 of RM Regulations** –
The organization must ensure suitability, relevance and effectiveness of the RA and SWP by reviewing them at least once every 3 years, or if an accident occurs or if the work process, situation, environment or condition changes.

**C. A Word For Bosses**
Having people directly reporting to you is a privilege that carries a duty of care for them. Think of your workers as people who help you in your business and they also have a family that loves them. As a boss, do ask yourself these questions:

- How well does my staff know the safety requirements which means the RA, SWP etc so that they can work safely and thus home safely at the end of the day?
- If they do not know, do not understand or are not able to apply the requirements, they are definitely potentially in danger anytime that they are at work.
- Are my staff ready for the work they need to do in the next few hours? Will the environment, situation or condition they face bring any additional hazards as they continue to work?
- Will they get dehydrated, fatigued or otherwise suffer any condition to impair their ability to continue working safely?
- How often should I go around and be with my workers to see if I can help them in any way; to give them feedback on their work progress or to acknowledge their work, etc?

**D. A Word For Workers**
Safety is a basic personal responsibility and no one can or should be watching over you all the time to make you work safely. Working safely is not doing additional work but working correctly. Any unsafe behaviour or condition will pose a hazard that can injure you or harm your health. Take care of yourself and those who work around you so that everyone can go home safely at the end of the day.

**Notes**

1. **An RA must answer 3 questions about the specific work scope:**
   - In relation to the work being performed, are all the safety & health hazards identified?
   - For each identified hazard, has its possible impact to the worker measured properly?
   - After identifying and measuring the problems, are they solved effectively?

2. **While the RA focuses primarily on problems coming from the work being done, the SWP focuses generally on the environment, condition or situation under which the work is being done.**
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Workplace Health Promotion

Employers are becoming more interested in dealing with the economic losses suffered each year as a result of injuries and illnesses in the workplace. More than ever, workplace health promotion is coming to the forefront and has been seen as one of the ways of dealing with such issues. For many years the safety message has been taken home by employees and enforced beyond workplace boundaries. Slowly, this is now beginning to emerge with workplace health education.

Workplace health promotion should be a way of building a healthy culture, empowering workers, improving team effectiveness relating to health issues, and managing these issues within the workplace. A major problem with any workplace health promotion is getting the employees to become engaged and to participate in the health promotion activities. Rewards are usually effective motivators. However, each individual must accept personal responsibility when it comes to health issues. A key role of health promotion in the workplace is to ensure individuals take ownership of their own health needs, as well as being educated on how specific health needs “tie in” with identified workplace health issues.

The aim of any health promotion activity is to ensure that workers are empowered with the knowledge of the specific health issue(s) being faced. When workers fully understand the consequences of not implementing control measures, they are more likely to embrace change where and/or when required. However, when not fully informed, the individual worker will either make assumptions or will be guided by “old wives” tales concerning specific health issues. It is therefore important that any health issue discussed within the workplace is not only relevant to the workplace health needs, but is also delivered by an expert in that area, who can confidently answer any questions, make suggestions, and give evidence-based and up-to-date advice to the employees.

Health Promotion in the Workplace
Workplace health promotion is similar to any other health promotion, except for the way in which it is delivered. A workplace health needs analysis is required to identify what health related issues exist specifically for that workplace.

Whilst it is appropriate to follow the generic health promotion topics that are delivered on an annual basis (such as Sun-Smart Programs, Stop Smoking, Manual Handling etc), the workplace health promotion program will need to ensure that the health topics chosen reflect current health issues found in the workplace.
Workplace health education programs are developed on basic assumptions that they will improve and sustain the health of employees, and that these employees will willingly participate and accept the information provided, applying it to their own circumstances. Unfortunately, this is not often the case as most workplace health promotion activities fail to empower the individual, and therefore fail to provide any motivation for follow-up after the program delivery.

Whilst we desire active participation from our employees, the success or failure of any workplace health promotion activity is often determined by who decides which workers will actually participate, how and when, and what control they have over the decisions on what type of programs are run. There has been many a moan from groups that are "strongly encouraged" by management to participate in for example, a manual handling activity, or a healthy diet talk given by a dietician. The moans come from individuals who have no interest in the activity, have not been properly educated in the benefits or outcomes, have clearly experienced similar program in the past that was uninteresting and/or tedious, have been exposed repeatedly to the same program (and instructor), or have been forced to attend as part of workplace health and safety requirements.

Clearly, where health risks are constantly an issue in the workplace, any health promotion related to these topics needs to be refreshing and educating but most of all entertaining and empowering for the workers. Remember, they [the workers] have possibly heard it all before, but not necessarily in an engaging way. Planning for any successful health promotion in the workplace needs to begin with having a clear idea of the desired objectives of your topic. What do you hope to achieve from running such a promotion? Is it to raise the awareness of workplace health? What benefit is there for the organisation in running such an activity? What purpose is there to gain for any relevant information, and how would you use this information? Too often, organisations are coerced by external providers to run costly health promotion campaigns that have no relevance to any workplace health issues. They are usually "feel good" activities that only promote the external organisation providing the service.

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To ensure your workplace health promotion is not only a success for your organisation but also relevant, rewarding, empowering and measurable, here are a few suggestions that may assist you in your workplace health promotion.

**Budget**
Put together a budget to get an idea of what the costs may be before presenting the plan to management, especially if it is to be a larger activity. There are many things to consider when running workplace health promotions.

**Tie Generic Programs To Community Campaigns**
If you can, try to run any generic health promotions (such as weight loss, diabetes awareness, skin cancer and so on) a few weeks before the general community campaign gets underway. The worker not only gets the message in the workplace, but also at home through television and newspaper campaigns. This can be a powerful tool in changing lifestyle habits.

**Seek Resources “In Kind”**
Utilising local resources such as university students can outweigh some of the bigger costs for resources to run larger health promotion activities, for example. Health promotion is especially relevant for nursing, physiotherapy, occupational therapy, education and occupational health and safety students. Utilising this resource provides a win-win situation for both the university and the organisation – the students gain valuable workplace experience, not only organising, developing and running the health promotion activity, but by evaluating the outcomes through reflection and analysis. The organisation itself gains a novel way of promoting relevant workplace health issues, as well as having a reasonably cheap form of delivery by utilising these excellent and local resources.

**Repeat Successful Campaigns**
Repeat campaigns that went well. Avoid having exactly the same activities. Make it novel and interesting, and try to improve on the previous year’s routine. Do not become complacent and assume that because it worked last year, it will be successful again. Events, circumstances, managers and budgets change. So do people. Be prepared to make changes too.

(Continued on page 41)
Impressive innovation in a compact size.

Suitable for multiple applications, the Mini PFL is designed specifically for environments where close anchorage is available.

Compact and Versatile
Latchways PFLs are the most compact and lightweight personal fall limiters ever developed, using multiple spring radial energy-absorbing technology. This new design eliminates the need for an external energy-absorber outside of the housing, making the units the most compact PFLs on the market.

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Unhindered use
Fully rotating attachment point for completely unhindered use—both 360° and 180°

Precision engineering
A structurally reinforced pawl mechanism

Highly durable
A polycarbonate casing houses the PFL and its transparency allows for easy visual inspection of critical internal components

Quality materials
Components manufactured from high-grade stainless steel and engineered plastics

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INTRODUCTION
Just like many established companies, Petrochemical Corporation of Singapore (PCS) has gone through the engineering, administrative and procedural phases of improving safety systems based on the hierarchy of risk controls, and has more or less reached a performance plateau. There seemed to be no significant continuous improvement despite a lot of effort put on safety management in the early part of 2000s.

PCS had a painful falling-from-height incident in early 2004. Following an intensive incident causation analysis, it realised that it was due to human behaviour amongst other contributing factors as it involved an experienced and well-liked foreman. The foreman could have been rushing to complete the task that was assigned to him for supervision. In order to take a short-cut, he went without a proper harness while working at a height in the attempt to complete the assigned task. Certainly, he did not realise that his behaviour could cause serious injury to him as he was unaware of risks at that time.

Learning from that incident, PCS Management decided to make a major transformation of the then Health, Safety and Environment (HSE) management system, over and above the Process Safety Management System [1]. This was the beginning of the journey to safety and health success. After months of preparation and training employees and contractors on behaviour based safety (BBS), PCS launched its BBS implementation on 16 August 2004. During the launch, the very first regular contractors’ dialogue session also commenced. The outcome has resulted in PCS achieving more than 13 years of being lost time incident (LTI) free, and achieved more than 37-million worked hours LTI free. The PCS contractors’ dialogue session held every quarter has been sustained to this day.

PREPARATION AND LAUNCHING OF BEHAVIOUR BASED SAFETY
Behaviour based safety is an employee-driven [2] safety process and not a programme. It involves identifying critical behaviours, gathering data, using data to remove barriers and finally providing feedback for improvement [3].

This is a process of safety culture change involving people and therefore takes time to cultivate. It may take one to two years before a change of attitudes in people towards safety performance is realised.

A series of preparatory work is required before there can be a successful implementation.

PLAN
The preparation of BBS safety process includes a standard operating manual containing training details, terms of reference for the BBS steering committee including its organisation structure, and documentation system. The training scope has to include BBS awareness, BBS observation (BBSO), critical behaviour inventory (CBI) and BBS management briefing. BBS management briefing is included as management’s support in BBS is crucial since it is people-centric with bottom-up and buy-in approaches in order to be effective.
To plan for success and be in line with the intent, the BBS steering committee must include management as a leader, in addition to the management sponsor. Refer to Fig. 1 for the BBS Steering Committee organisation. In this manner, the facilitator would be able to gain support from both employees and contractors, allowing more receptivity and co-operation by all involved. On the other hand, the facilitator has to be on a rotational basis, such as at a six-month term, in order to keep up the steam. From experience, the buy-in by employees and contractors (workforce) will pave the way to active BBS observation data gathering and verbal constructive feedback to peers for improvement.

In addition, for the entire BBS process to have an identity with common goals, a process name and a logo as shown in Fig. 2, would motivate one and all. The acronym of PCS’ BBS observation is TRUsT [1], which means:

**Trust** — you have trust in me because you know I care

**Respect** — I respect our work together and I am going to watch your work in order to give you behaviour-based feedback

**Us** — we trust, respect and coach each other. This is about us

**Truth** — the truth of this behaviour based safety is Trust, Respect and Unity

The badge of TRUsT is sewn on the working clothes of managers and BBS observers who are working in the plant areas as a symbol of identity and belonging.

**DO – Implement**

It is essential to emphasise and provide a blame-free environment for peer-to-peer behaviour based safety observation (BBSO). This encourages the workforce to have mutual feedback for continuous improvement without fear.

A formal launching event on BBS would certainly be a good start to an onward journey. The attendance should include all observers of both employees and contractors, and contractors’ management as well as employees’ union representatives. Senior management could address the zeal to achieve zero incidents in health, safety and plant activities ensuring no disruption to facilities operations. These would translate into zero environmental incidents with no social impact to uphold reputation as a corporate responsible organisation.

After the launch of the BBSO, hand-holding and coaching would be helpful to steer the process on the right path and provide focusing in the initial phases of peer-to-peer observation data logging process. Some of the key action items were:

1. Establishment of list of CBIs specific to PCS
2. Formation of Barrier Removal Team to tackle Difficult and Non-enabled At-risk Behaviour
3. Analyse CBI such as Personal Protective Equipment for fall protection, respiratory protection, head/foot protection, eyes/face/hearing protection, line-of-fire, pre/post job inspection, etc
4. Implementation of Departmental Capacity Building programme
5. Incorporation of BBS introduction and awareness training in other in-house workplace safety and health (WSH) training programmes

**CHECK – Review**

As the CBIs are specific to PCS, in practical terms, the company is required to establish its own suitable statistical analyses on the tracking of BBSO performance for continuous improvement. Over the years, PCS has established three useful BBSO key performance indicators (KPIs) for constant review:

1. Number of BBSO
2. Percentage of At-risk Behaviour
3. Percentage of badness in top four At-risk Behaviours

These KPIs are tracked monthly and reported to senior management for comment and advice. The same KPIs are also disseminated to all departmental heads for corrective measures in conjunction with identified gaps from other WSH activities. Fig. 3 indicates percentages of some At-risk Behaviour as part of CBIs.

(Continued on page 44)
Eight Traits Of A Safetiologist – For A Better And Safer Workplace

Introduction
Singapore's vision for 2018 is to have a fatality rate of 1.8 per 100,000 workers and in the year 2015, the fatality rate was 1.9. Occupational safety and health is everyone’s responsibility. Behind most of the workplace related safety and health incidents, there is a lapse in safety mindset. Leadership towards safety is given importance in WSH Act and in all management systems, including the proposed ISO 45001 standards. Safety leadership exists at all levels within the workplace. However, Safety by profession revolves around persons having a safety certification. In order to have positive safety and health outcomes, accountability towards occupational safety and health should be everyone’s responsibility.

WHO IS A SAFETIOLOGIST
The word -logy 1 is a back formation from the names of certain disciplines. The -logy element basically means "the study of ____". Through the years -ology and -logy have come to mean, "study of" or "science of" and either of these suffixes often utilise the form of -ologist, "one who (whatever the preceding element refers to)". Thus, a Technologist is a person who specialises in technology and a Neurologist is 'a doctor or scientist who practices or specialises in neurology'. In a strict sense, SAFETIOLOGIST, a term used by the author, simply means a "person who practices the science of safety"

TRAITS OF A SAFETIOLOGIST
Many models of professional safety highlight the traits for a safety profession. For a zero incident and very good and positive culture in a workplace, ideally everyone is a SAFETIOLOGIST. The following eight (8) traits for a SAFETIOLOGIST are:

1. Leadership - Take charge as a Leader, take accountability, be responsible and lead by example. Safetiologists must recognise that they are accountable for a workplace’s safety performance. This goes beyond knowing the severity rates. They must accept and set the responsibilities in charting out the actions needed to raise the performance bar, and to ensure those actions are effectively implemented. Safetiologists must recognise the role of positive feedback and use every opportunity to recognise and reward safe behaviour, and conversely are willing to make difficult decisions when performance is lacking. Safetiologists must have followers and people cannot follow unless they know where you are going. This means leading by example.

2. Problem Solver - In the workplace, as in life, conflict is many a times inevitable. But given the right set of skills, Safetiologists can address conflict in ways that foster positive outcomes. In doing so, Safetiologists make decisions in their best ability to identify and analyse problems, and then take effective and appropriate action to alleviate those problems. Further, Safetiologists should anticipate issues and be proactive, and react quickly to safety issues/concerns. They ideally should turn problems into opportunities by providing business-oriented solutions and leave no open-ended issues. Problem solving involves thinking on your feet and out of the box.

3. Personality And Passionate - Caring, respect for others and view work not as a job but as a career. Be punctual and show signs of politeness. A Safetiologist recognises intrinsic values (e.g., human life, ethics, a sense of stewardship) and believes deeply in the worth of the individual. It requires a significant level of empathy. Safetiologists must be passionate about their job and should understand that passion shows in your action and only if your safety activities are visible to others.

4. Plan For Improvement - Safetiologists must have a defined plan to improve safety performance for the individual and the company. No matter
what the current levels of performance are, a Safetiologist will identify the workplace’s strengths and weaknesses and will set a path forward and strive to improve. Safetiologists are in active control of the processes used to deliver safety.

5. **Competent** - Be current in understanding the legal requirements and competent in other areas also such as finance, project management, besides a strong commitment to learn. Some Safetiologists are natural born and are charismatic while the rest have to work hard. Safetiologists assess what skills they possess and what skills they lack, and then work to improve on any gaps identified. Here we have to recognise that the human tendency is to play at one’s strengths and will generate only incremental improvement. Once all the necessary skills are present, they must be applied in a systematic, business-like approach to managing safety.

6. **Communicate, Cooperate And Team Work** - Ability to work as a team and individual, engaging and getting cooperation from the workforce, irrespective of language, culture and race. Safetiologists must understand that safety depends on the constant efforts of everyone in the workplace and therefore continually strive to get more people involved in the effort. This includes the selection and promotion of staff, engagement with contractors. Working as a team is the willingness and capability to support the safety vision. Safetiologists must believe in open reporting, and to create an environment that encourages such reporting. Safetiologists value every opportunity to learn from mistakes of the past, either in their work or from the outside. Lessons learnt from mistakes, must be shared. It is important for Safetiologists to communicate with their superiors and subordinates of their commitment.

7. **Stay focused And Set Expectations** - Timely completion, be visible if work is given and don’t allow to be told again and again. Prevent unnecessary arguments and provide timely advice. Safetiologists must make clear within the workplace what their personal standards are on how work would be done efficiently and safely. Besides setting and articulating these standards, leaders will know how well those standards are being practiced through personal observation and questioning. Safetiologists set and maintain expectations through establishing and communicating effective metrics. Safetiologists must be punctual and intervene where required, especially when they discover those expectations and standards are not being met.

8. **Efforts And Unrelenting Efforts** - Safetiologists must carefully consider the metrics used to measure and assess safety performance. It should be recognised that their workplace exists for profits and Safetiologists must support the organisation in its vision, mission and bottom line. The lagging metrics of injury and illness experience are accurately tracked, but Safetiologists will also establish and track meaningful leading and concurrent metrics relevant to their operations. Lastly, don’t fall into the trap of complacency. Safetiologists must recognise that safety leadership is similar to rolling a large hard rock up a steep hill. It is not easy, nor does it allow you to stop and rest on your laurels. There should be unrelenting efforts and Safetiologists must do everything in their power to ensure that their people go home safely each day.

**CONCLUSION**

By having more Safetiologists in the workplace, a safer and better workplace is expected. Safetiologist does not mean that they are managers. Everyone in the organisation can be a Safetiologist, provided that the minimum eight traits, as explained above, are met. Thus a Technician, Sales Manager, Warehouse Supervisor, Director, Operator and coordinators can also be Safetiologists.

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- Narayanaswamy, Venkataraman holds a Masters degree in Chemical Engineering and Environmental Management and professional certifications such as CSP, CET, WSHO, FSM, CMIOSH, DOH, SCEM, NMO, ACTA and has over 34 years of experience in the functional areas of environment, occupational safety and health, energy, and sustainability engineering and management in Singapore, China and India. Venkat is an approved trainer, consultant and auditor. He has published and presented many peer-reviewed papers in international journals and conferences. He is presently working as the Principal Consultant with Fides Global Pte Ltd, Singapore. His previous experiences have been in the semiconductor, process, manufacturing and consulting sectors.
Confessions Of A Workplace Safety Professional

As a safety professional for about 18 years, I’ve had the opportunity to witness the gradual transition of the health and safety system in Singapore from a prescriptive approach that emphasised regulatory compliance to a risk-based approach that borders on evaluating risks and initiating actions to control them. The transition process also saw the transformation of safety professionals from those who were under-competent due to a weak training and assessment structure to more competent persons groomed by a later refined robust modular system of training and evaluation.

For me, in addition to the safety training and certification I had received, my years on the job had been formative in molding my safety skills when I had to deal with less cooperative contractors without, and hypocritical site leadership within who had no interest to "walk the talk" in safety matters. It is through such complexities of work-related interactions that I learnt the true meaning of "FIRST" in Safety First. "FIRST" is a pragmatic concept that embodies the qualities I had learnt to apply in playing my safety role in the workplace.

The F in "FIRST" is the quality of FEASIBILITY. The Webster Dictionary defines this word as "capable of being done or carried out". Project or operational teams are usually concerned with the timely completion of constructing a building or manufacture of products respectively. The successful shipping of an oil drill tool out from the shop floor translates into revenue for the company. Similarly, a building project has to be built in accordance with the set milestones to achieve temporary occupational permit for the owner to move in. As a safety professional it is imperative that he/she unequivocally demonstrates similar concerns to the successful completion of the said tasks and goals, the only difference being the additional concern for preserving life and limb. Therefore, the recommendations or suggestions the safety professional offers as control measures for mitigating safety lapses must be feasible to the point that the work in progress is not hampered by unreasonable risk controls that could result in delays or stoppages.

The next quality that is to be considered in ‘FIRST’ is represented by the letter I, which refers to INITIATIVE. Safety professionals should take the initiative in attempting to resolve issues in safety and health. Such initiative can only come about when the safety professional is grounded in technical and regulatory knowledge, familiar with shop-floor or site processes, activities and tasks carried out, and well exposed to industrial practices. In addition, he walks the ground to make observations of unsafe acts and conditions that create hazardous situations, intervenes to evaluate the risks, and initiates actions that will result in acceptable controls being implemented as solutions to the prevailing hazards. I had many a time been able to win the confidence and trust of the project manager because of initiatives I had demonstrated in the projects involved. Each time I sat down with project managers, be it American,
Japanese or local, they were willing to "lend me their ears" to hear out what resolutions I brought to the table.

The third letter of "FIRST" is the quality of being REASONABLE. To me, reasonableness can be interpreted as the skilful technique of moderating between costs incurred and benefits accrued. One obvious reason why safety professionals fall out with the project or operational team members is their inability to demonstrate reasonableness when presenting solutions to safety-related problems. More often than not safety professionals tend to recite the common mantra of regulatory requirements and penalty culpability. They fail to facilitate their presentation or recommendations with solutions that comply with regulatory requirements while ensuring such recommendations are not grossly disproportionate between the cost of averting risks and the benefit enjoyed from averting such risks. I was once caught in a difficult situation when I was overseeing the health and safety in the plant. A sub-contractor was called in to install additional racks for storing chemicals in the bulk storage section of the warehouse. He had to carry out hot-work activities like cutting and welding works which generated fumes and smoke that contaminated the air in the plant. After reviewing the time and duration of the tasks, and the cost and effort involved in atmospheric testing, supplying local exhaust ventilation and respirators, we proposed that the job be planned properly in such a way that all hot works will be carried out in an allocated spot outside the plant before bringing the fabricated parts to install the rack. This satisfied all stakeholders concerned.

S is the next letter in "FIRST" which refers to the quality of being STEADFAST in the role as safety professionals. The Webster Dictionary defines steadfastness as "firm in belief, determination, and adherence". A good safety professional will be one who is immovable in his belief that health and safety is paramount to the success of the project or operations, having sheer determination to set the standard in health and safety throughout the organization, and elicit adherence to safety and health procedures and practices. The failure of a safety professional is when he or she begins to waver, and succumbs to compromises that undermine the safety of lives and limbs. In one project my unwavering belief was put to the test. I established a safety policy that body harness shall be donned by respective personnel from every levels of the organization, including the client, suppliers and authorities. Many were sceptical about the successful launch of such a policy, questioning the policy’s credibility - citing reasons that body harness should only be worn when working at heights. My counter argument was that the common human behaviour on site by most personnel if not all is the tendency to elevate to heights without a body harness if they are not able to get hold of one. In such instances, it is preposterous to even think that they would take the trouble to walk back to their office to put on the body harness. Others mocked that the policy is ludicrous, and deemed it rather cumbersome to be wearing a body harness to site let alone walking around with it when there wasn’t a need to. I stood firm in my belief in the policy, and insisted adherence to it. I was determined to ensure the policy is internalized in every person gradually, and become common behaviour just like wearing a safety helmet without question. The steadfastness paid off, and I had the privilege of seeing the donning of body harness becoming a common thing amongst the workforce prior to entering the site, work at heights or not.

Last but not the least, the final letter in "FIRST" is the letter T. This refers to continual TRAINING and upgrading to stay abreast of time. It is already an ostensible fact that the government of Singapore is a strong advocate for training and education, and subsidises heavily towards life-long learning for adults to continually improve their skills. It is the same with a safety professional. Continually upgrading his skills and knowledge with relevant training will enable the safety professional to be both confident and credible when it comes to offering advice to the project or plant manager on safety-related matters. A wise safety professional will not shun training, but on the contrary, will pursue competency through training courses and workshops in various disciplines. One area of discipline safety professionals should hone their skills is in cost comparison and analysis. Instead of invariably chanting the mantra of regulatory and mandatory requirements, a safety professional should be trained to present a lucid comparison between costs incurred in an accident and the costs of implementing a reasonable control measure to avert such an accident. This sort of quantitative risk analysis will enable the project/plant manager to make appropriate decisions and lend support to implementation of cost-effective control measures. The safety professional's credibility becomes obvious.

In conclusion, the concept "FIRST" in Safety First should not just be a slogan shouted out as a daily morning routine in the workplace in hollow allegiance, but should and must become the doable qualities a safety professional can demonstrate in the workplace to be found worthy of pragmatism and credibility...values that speak volumes to his/her superiors and peers. Let each and every safety professional in the workplace be FIRST in safety. 🛠️
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Interview with Allan Low (WSHO Award Winner)

ALLAN LOW WITH SISO PRESIDENT, MR BERNARD SOH AND EXCO MEMBERS, DARAJIT DAVID (EXTREME LEFT) AND ONG PAK SHOON (EXTREME RIGHT)

Please describe your job duties
My duties require me to drive and promote a zero incident culture to meet the organization policy. Provide guidance and direction on implementation of a Safety & Health program and promote continual safety improvement throughout the whole organization. Lead and be responsible for the effective implementation and maintenance of a comprehensive Safety & Health Management System. Manage and conduct safety inspections and audits together with various stakeholders, analyses the compliance level with recommendation for improvement.

What are the challenges you face at work?
A lot of people think that safety is a burden and not a profitable activity which is a common misconception, because additional manpower is required to have an EHS department.

How do you overcome them?
I would always highlight and explain to my management or any interested party, that safety is a part of the business model, it cannot be separated. The cost of implementing safety management on site creating a strong and productive workforce is marginal, compared to encountering a disastrous event that lead to loss of human life, damaging company image and also affecting the morale. Safety is a way of life, it is from the way one speaks and behave.

What motivates to give your best?
My vision is to create an impact to all the workers in the workplaces to allow them to have the sense of belonging, watching out for one another’s safety and always emphasizing on “Safety First, your Family awaits your safe home coming”. This will always motivate me to give the best whenever possible.

Off work, what are the things you like to do?
My passion outside work is to spend quality time with my family and friends, especially with my 2 girls age 4 and 5. Having regular gatherings and events, talking about the history and stories we had gone through.

What stood out during your involvement in WSH?
When the management takes the lead in commitment to the company’s Workplace Safety and Health by being directly involved in the policy, direction and even inspections of the sites. They will set the best EHS standards and commitment to provide all the necessary resources for the team to execute and implement the EHS management system.

Allan Low was recently selected as winner of the WSHOT Award 2017. He received the Award on 25 Jul 2017 from Mr Yam Ah Mee, Chairman of the Construction and Landscape Committee, Workplace Safety and Health Council.

Quek Chin Tuan
Executive Manager, SISO
quekct@siso.org.sg
Safety that I had made over the years for this organization always make me feel satisfied and excited every moment. I had been there during the bad times and also saw how much the organization had grown to be in the direction of attaining EHS excellence.

CAN YOU SHARE WITH US WHY YOU CHOOSE WSH AS YOUR CAREER?
I believe that with WSH as a career, I can help and influence a lot more people to have a better life and create a safer work environment.

WHAT ARE YOUR PHILOSOPHIES AND BELIEFS WHEN IT COMES TO WORKPLACE SAFETY AND HEALTH?
The most important part of being a WSHO is to be clear of the direction and emphasis and always place the workers’ safety and health as priority. Address all potential issues that arise and do not try to avoid it, as it will hunt you one day. I always believe in this quote, “tough time don’t last, tough man does”.

SHARE WITH US THE CORE VALUES THAT YOU LIVE BY
“To lead, to excel, to overcome”. These sets of core values are instilled deep inside me during my days in the Officer Cadet Course.
- To always lead by example.
- To excel in everything I do.
- To overcome all obstacles with determination.

HOW CAN A WSH PROFESSIONAL ACCURATELY MEASURE SAFETY EFFECTIVENESS?
The safety culture that an individual has created or influenced in that worksite or even the organization, will be the best measurement. ‘Culture’ is one of the most critical factors in sustainable safety and health performance. A good safety culture in the workplace is a collective effort of every individual and does not reside with anyone alone. There is a need for conscientious and consistent effort to constantly remind, reinforce and educate the staff. It requires time and effort to build a strong Safety and Health culture and most importantly to maintain it.

WHAT ASPECT OF YOUR WORK GIVES YOU THE GREATEST SATISFACTION?
Work life balance is crucial. Every weekend I will definitely spend time with my family members.

HOW HAS LIFE CHANGED SINCE YOU BECAME A WSHO?
Every day is a new day and full of excitement.

HOW CAN WSH PROFESSIONALS RAISE AWARENESS ON WORKPLACE SAFETY AND HEALTH?
Regular communication with all stakeholders and in all sorts of platforms will raise WSH awareness. Always gets the facts right before engaging in any discussion or briefings that will allow the other parties to be made at ease by your speech and, in the long term, trust your capability.

SEEMS LIKE A HUGE SACRIFICE OF PERSONAL TIME. HOW MUCH TIME DO YOU GET TO SPEND WITH YOUR FAMILY?
Work life balance is crucial. Every weekend I will definitely spend time with my family members.

WHAT ASPECT OF THE BIG CHALLENGES?
Any challenge that Workplace Safety and Health, or even the organization, will be the best measurement. Culture is one of the most critical factors in sustainable safety and health performance. A good safety culture in the workplace is a collective effort of every individual and does not reside with anyone alone. There is a need for conscientious and consistent effort to constantly remind, reinforce and educate the staff. It requires time and effort to build a strong Safety and Health culture and most importantly to maintain it.

WHAT MADE YOU PICK UP THE LANGUAGE?
I can speak a bit of Tamil too. I pick up those key words from the workers over the years. As I know that they will feel “closer” when someone of another race can speak their language.

YOU ALSO SPEAK MANDARIN.
My wife is always there to give a listening ear when I encounter difficulties and share wonderful moments.

DO YOU DISCUSS WORK WITH YOUR FAMILY?
My wife is always there to give a listening ear when I encounter difficulties and share wonderful moments.

YOU ARE HELPING TO SHAPE THIS COUNTRY DURING A TIME WHEN MANY CHANGES ARE BEING INTRODUCED. WHAT ARE SOME OF THE BIG CHALLENGES?
We can have the best system and most capable people, but if they are not willing to do it together, the outcome with not be fruitful. That is why as a safety professional we need to influence the positive inter-relationships to build the team, as it creates commitment between them. When everyone acts and behaves the same way which is the safe way, then culture is in place. Eventually performance will tag along. It needs time and effort from every individual in the organisation to believe in it and then it will automatically be in place.

WHAT ARE SOME OF THE SOCIAL ISSUES CLOSE TO YOUR HEART?
For a business to be truly sustainable, it is important to ensure that adequate resources and time be spent in ensuring that Workplace Safety and Health aspects are not being compromised at the expense of higher profitability.
Model 7541
Personal Emergency
EYEWASH Station

Haws Personal Emergency Eyewashes are for use when dirt, dust or other contaminants come into contact with the eyes. It is ideal for quick access to first aid in case of eye injury. Mounted at the immediate point of need, this personal eyewash will provide immediate flushing until a primary station can be reached.

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With two ergonomic streams, the DUO eyewash provides simultaneous eye coverage allowing both eyes to be treated with an advanced rinse process for supplementary flushing support.

PH NEUTRAL ADVANTAGE
Asteri pH Neutral phosphate solution is able to neutralize any acidic or alkali substance that enters the eyes to help restore a proper pH balance (only available pH neutralizer on the market). Recommended for chemicals with pH levels above 10 or below 4, though it can also be used for pH neutral contaminants.

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Feel free to contact our professional team for a free site survey on any emergency shower and eyewash of any brands that have been installed for more than 3 years.

Contact Details:
Mr Ivan Chong
ivan.chong@leedennox.com

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Weeding & Safety Division
Leeden National Oxygen Ltd
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Email: sgsales@leedennox.com
Website: www.leedennox.com
As depicted in Figure 1, the author contends that the effectiveness and stability of a robust Safety Case regulatory regime/system for an industry depends on and is a function of the ‘balancing act’, unfettered interactions, and healthy coordination among its three composing “IRS” pillars: Industry (and its safety culture); Regulator (and its resources); and Society (and its public policy). The three-legged stool in Figure 1 attempts to graphically demonstrate these fundamental issues.

CONCLUSION
A healthy safety culture of the industry, adequate recourses of the regulator, and proactive public policy of the society constitute necessary conditions and comprise the foundation for the implementation of the Safety Case regulatory regime. All the above (plus more, depending on the context/covered industries and the country) serious issues and concerns that could make (or break) the Safety Case regulatory regime should thoroughly be analysed before, and continuously monitored during its implementation in any country.

References

About the Author:
Najmedin Meshkati holds the following positions:
- Professor, Sonny Astani Department of Civil/Environmental Engineering
- Professor, Daniel J. Epstein Department of Industrial and Systems Engineering
- Professor, School of International Relations, University of Southern California (USC)
- Commissioner of The Joint Commission
the culture. Even if the budget is lacking, he or she will find ways and means to make things work. The reverse is also true.

I attended the first monthly meeting a client organised for their contractors. Their Vice President of Operations sat at the head of the table, flanked by the Safety Manager on one side and his Operations Manager on the other. Five other contractors’ safety representatives, including myself, were also present.

The Safety Manager kicked off the meeting by stating the objective and the deliverables of the meeting. As he was talking, the VP opened his laptop and started working on it. Most of the time, his eyes were glued to the computer screen, and I could hear the occasional typing sound. Once in a while he would look up, as if to follow the conversation, before his head dipped again. After the end of the meeting, the five of us left the room first. Walking down the hallway, one of the safety representatives joked, “That VP must be working on a billion-dollar project!”

The VP was physically present, but he had no presence in the meeting. If he had a choice, I bet he would have stayed in his office to complete the “more important” task he had on hand. His personal commitment to safety — or lack thereof — was crystal clear.

I have learnt that tasks can be delegated, but not responsibilities. One of the core responsibilities of a leader is to set the tone for a company’s culture. They do so through their actions and decisions. Culture is not something a leader can delegate to the Safety Manager. He needs to do it himself, because other staff are looking to him.

Several years ago, as the Regional Safety Head of an MNC, I launched an initiative pertaining to Safety KPIs for the senior management team. An overview of the framework was presented at the regional conference, but I had to organise a phone call to finalise the details and clarify any doubts. Due to time zone differences and the tight work schedules of team members, I had to reschedule the call twice before it was finalised. I knew that the Regional President (who was the boss of everyone in that call) was due for a flight that afternoon, but decided to proceed anyway to avoid prolonging the issue.

A few minutes into the call, the Regional President dialled in. He was at the airport boarding area and had to apologise for the background noises. The Regional President emphasised on how important it was for senior leaders to lead by example, and reiterated his expectations for them about the KPIs. He reinforced what he had mentioned during the regional conference about “safety as a value.” His voice was muffled by the conversations of other passengers and by intermittent announcements, but his message was deafening.

The above are just some of my perspectives about workplace safety, which have evolved over time. I am sure my perspectives will continue to evolve in the future. The sea of knowledge about safety is infinitely vast. As I sail through this sea, it is my wish to learn and grow personally, and to add value to the industry professionally. I wish that for you as well.

References
Workplace Health Promotion
(Continued from page 25)

Record Outcomes
Make your events measurable so that you will be able to project some outcome for future events. Avoid having a promotion for the sake of having one. You need to be able to show some outcome for the money, time and effort you [and the organisation] have invested.

Get Some Feedback!
Put out an employee survey to get some response from the participants. Make this anonymous so that what you gain is honest feedback. Be prepared for some brutal honesty. Learn from this, and set goals to improve. Take on board these comments and let the employees know that you have valued their comments.

Get The Media Involved
Health promotion in the workplace (especially if it involves community groups) will be kudos for the organisation, showing the community a commitment to workplace health. The employees will also get some positive feedback, which can instil pride in working for the organisation and a sense of empowerment in being part of the program.

Review And Plan For Future Events
Plan health events for the upcoming year in December or early January. Avoid waiting for the end-of-financial-year budgets. Be prepared so that when you need to present your health budget for the workplace, you will know exactly what you need.

BARRIERS TO HEALTH PROMOTION
There are a number of barriers when trying to endorse health promotion activities in the workplace.

Economics
The economic barrier is probably the most common, as the benefits from running health promotion campaigns are difficult to measure as a short-term gain.

Other Barriers
Other barriers can include changes to workplace practices, and company growth, where time constraints to attend these activities will impact on production. No production equals no money, no money equals no budget and so on, resulting in inflexibility of work patterns to accommodate any other activities for employees except work.

Small business employers may not have the resources or the budget to afford or design programs, usually ending up offering none at all. Quite often some programs can highlight deficits within the business such as language and communication issues [for people with non-English-speaking backgrounds], cultural barriers, underlying health and safety issues, and fear of having to pay out for workers’ compensation. Many smaller businesses will only do what they have to do to comply with legislative requirements; anything else that is seen as a cost to the business is overlooked or pushed to one side.

In conclusion, a workplace health promotion program can build a healthy workforce that will ensure the ongoing health of the enterprise itself. A reduction in absenteeism, lost productivity and compensation claims, and an increase in employee morale can have huge benefits for both employee and employer. This results in a positive outcome of promoting, improving, preserving and empowering employees in managing and understanding both their workplace and personal health needs.
PROTECTION
COMFORT
DURABILITY
EVERYDAY

Date: 03-06 September 2017
Venue: Sands Expo and Convention Centre,
Singapore
Booth C8

Date: 20-22 September 2017
Venue: IMPACT Exhibition and Convention Centre,
Bangkok Thailand
Booth F10

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SISO Members’ Nite 2017: “Denim Nite”

SISO held its annual SISO Members’ Nite at Amara Hotel on 7 July 2017. This year’s theme was Denim Nite and many of the guests and members came dressed in their denim best. Combined with the country western music in the background, the networking and camaraderie flowed easily at this night of fun and laughter.

A total of about 180 attended the event, including guests from the WSH Council, Sport Singapore, NTUC, friends from various associations, and of course, our dear SISO Members.

The evening’s entertainment programme was a tremendous success. One guest had written in to thank SISO for an enjoyable evening and added that she had not laughed so much in a long time.

Members had a memorable time enjoying the food, the games, the camaraderie, and winning attractive luck draw prizes. One of the surprise highlights of the evening was the recognition given to newly joined SISO members as well as those who have been loyal members for 20 years and more. These members were invited up on stage to receive tokens of appreciation in front of peers and fellow members.

At the end of the evening, the general feedback from members was that they had thoroughly enjoyed themselves. Mr. Darajit Daud, Chairman of the Members’ Nite Organising Committee, aptly rounded up the memorable night of entertainment when he said, “It was the members and guests who had made this the best-ever Members’ Nite! My team and I are very grateful for the fantastic support provided by the members and guests, who had wholeheartedly participated in the various games and activities. Your participation energised us and motivated us! Thank you once again!”

Some of the feedback sent by our members about the event:

It was an enjoyable Members’ Nite event last night. Congratulations on the success.
- Mr. C. K. Yim

Thanks for the Members’ Nite event that was organised, I give a thumbs up!
- Mr. Ken Quah

Mr. Yim and Mr. Quah, your comments are very, very much appreciated! Thank you!!

We would like to sincerely thank Mr. Jordan Tan Kah Siong for volunteering as our cameraman for Members’ Nite. His photos are priceless, as they perfectly captured the mood of the members enjoying themselves at the event.

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**Behaviour Based Safety – A Journey To Workplace Safety And Health Success**
*(Continued from page 29)*

**ACT – Continuous Improvement**
Based on the feedback received from management as well as from the ground, the facilitator would then take proactive actions for enhancing the current BBSO. These actions, which include promotional activity, are to ensure the sustainability of BBS and to manage the percentage of At-risk Behaviour and percentage of badness in the top four At-risk behaviours. The purpose is to reduce the risk at workplace to as low as reasonably practicable (ALARP) [5].

BBS process is truly a Plan-Do-Check-Act continuous process, an iterative four-step management method for continual improvement.

**CHALLENGES ON SUSTAINABILITY**
There were many challenges faced by BBS following the official launch.

The Steering Committee meets monthly to ensure good communication amongst custodians including the contractors’ representative. The agenda covers all BBS activities in the company namely, BBS TRuST statistics, BBS quality and performance matters, capacity building and promotional activities. The facilitator not only has to debate on the KPIs achieved but also to gauge the authenticity of the BBSO submissions. This is to ensure that the BBSOs received are reliable for use in WSH performance continuous improvement.

**13 Years Of BBS Experience**
The next challenge was the concern of sustainability. From the past 13 years of BBS experience, it was without any doubt that continual innovative promotional ideas are required to keep the entire workforce excited continually about the BBSO. Of course, the facilitator has to always be on his or her toes, gauging the steering team members’ response to innovative ideas.

The BBS process is growing within the organisation. For example in PCS, it successfully grew from the plant operations sector to the commercial and administrative sectors. The innovative ideas applied were BBS TRuST Champion scheme, Quality BBS Submission scheme, BBS Incentive scheme, Exemplary Safe Staff / Worker Role Model (of the month) campaign, and the latest BBS Star Model Awards in the turnaround period of 2016. All these innovative ideas and activities successfully stimulated the entire workforce to participate in BBSO because of staff recognition. Fig. 4 indicates a brief history of the PCS BBS success journey. The success of this approach also hinges on the teamwork culture of the workforce. The organisation cannot be in silo.

**Management Involvement**
Senior management must also be visible to the line managers and workers, walking the talk and be at work sites to understand the workplace status, such that timely rectification of workplace deficiency or unsafe condition raised through BBS could be expedited.

For any outsourced contract workforce, management should treat contractors as partners working closely as a team for close communication in attaining safe activities.

PCS also empowered the entire workforce to intervene and report any unsafe acts and conditions to supervisors for prompt intervention. This Stop And Report (STAR) initiative complemented the BBSO [4].

### Examples of Percentages of At-Risk Behaviours

<table>
<thead>
<tr>
<th>Year</th>
<th>PPE – Fall protection</th>
<th>PPE – Hand/Arm/Body protection</th>
<th>PPE – Respiratory protection</th>
<th>PPE – Eyes/Face/Hearing protection</th>
<th>PPE – Head/Foot protection</th>
<th>Procedure – Pre/Post Job Inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>5.0%</td>
<td>45%</td>
<td>35%</td>
<td>3.9%</td>
<td>9%</td>
<td>74%</td>
</tr>
<tr>
<td>2016</td>
<td>4.2%</td>
<td>41%</td>
<td>33%</td>
<td>2.0%</td>
<td>11%</td>
<td>62%</td>
</tr>
<tr>
<td>2017 to date</td>
<td>5.4%</td>
<td>47%</td>
<td>31%</td>
<td>2.9%</td>
<td>29%</td>
<td>50%</td>
</tr>
<tr>
<td>Others</td>
<td>73.4%</td>
<td>6.2%</td>
<td>5.2%</td>
<td>3.9%</td>
<td>6.6%</td>
<td>72.6%</td>
</tr>
</tbody>
</table>

Fig. 3 Examples of Percentages of At-Risk Behaviours
BBS has been sustaining well in PCS, cultivating a WSH culture which not only increases workforce awareness in occupational safety for total workplace safety and health excellence but also leads to good process safety performance.

**Outreach – Sharing to Others**
It is PCS’ corporate responsibility under Responsible Care® management practice codes [6] to share with organisations who want to learn from others to improve their WSH practices, including BBS. PCS is also having a series of outreach programmes to customers as well as suppliers both locally and in the region.

**CONCLUSION**
It is never too late to kick start the behaviour based safety process. In order to be successful, it would be wise to first review the organisation’s shortcoming and zoom into the areas of greatest concern pertaining to workplace safety and health issues. It follows by learning from companies who have successfully implemented behaviour based safety process in order not to re-invent the wheel. The ultimate objective is to ensure a healthy workforce in a safe workplace with zero injury.

**References**


**Fig. 4 Brief History of PCS BBS Success Journey**

<table>
<thead>
<tr>
<th>Year</th>
<th>Month</th>
<th>Behaviour Based Safety Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>16 Aug</td>
<td>V Launched BBS TRUsT Process</td>
</tr>
</tbody>
</table>
V 2 Admin Departments joined BBS TRUsT  
V Formed Barrier Removal Team – tackled Difficult and Non-enabled At-Risk Behaviour  
V Implemented Departmental Capacity Building programme  
V Conducted BBS TRUsT Awareness Training to SOC and In-house CSIT programmes |
| 2006 | Jan – Aug | V Launched BBS TRUsT Incentive scheme  
V Extended BBS TRUsT Awareness Training to Business Departments and Ad-hoc contractors  
V Reviewed BBS TRUsT and its Sustainability  
V Implemented High Intensity BBS TRUsT Observation [HIBTO] programme in PCS-II Turnaround |
| 2007 | Feb – Jul | V Implemented BBS TRUsT High Profile into mainstream operations  
V Launched BBS TRUsT Champion scheme |
| 2008 | Aug | V Implemented HIBTO in PCS-I Turnaround [henceforth future TAs and de-centralised TAs] |
| 2009 | Apr | V Rejuvenated BBS TRUsT process  
V Launched Quality BBS Submission [QBS] scheme |
| 2011 | Mar – Aug | V Produced BBS TRUsT Video for Champion training and PCS-II Turnaround [LCD display] |
| 2014 | Sep | V Celebrated BBS TRUsT 10th Anniversary |
| 2015 | Jun | V Launched Exemplary Safe Staff/Worker Role Model (of the Month) campaign |
| 2016 | Jul | V Implemented BBS Star Model Awards in PCS-II Turnaround |

Senior management must also be visible to the line managers and workers, walking the talk and be at work sites to understand the workplace status, such that timely rectification of workplace deficiency or unsafe condition raised through BBS could be expedited.
uvex pheos cx2

Winners at Work

 uvex pheos cx2 sets standards
Innovative features ensure that the new uvex pheos cx2 spectacles perform particularly well - various tests have verified their first class performance. For example, the advanced X-Twist technology and the new X-tended eye shield are proven to ensure an optimal fit as well as complete coverage of the eye area, providing reliable protection in every situation.

X-Twist Technology
The light spring effect of the side arm ensures that spectacles fit individual head shapes ergonomically.

X-tended eye shield
The soft components, which are fixed directly to the lens, provide dependable protection from dust and water.

Leak test
Did not let a single droplet through - whether sprayed from the front (as per the standard), from above or laterally (in accordance with uvex procedures).

Close fit
The distance between the forehead and spectacles has been measured at four different points to ensure the right curvature for most facial shapes.

Close fit
The distance between the forehead and spectacles has been measured at four different points to ensure the right curvature for most facial shapes.
Welcome New Members

JUNE / JULY

NAME DESIGNATION COMPANY
---
Fan Yu Fei Senior HSE Manager REC Solar Pte Ltd
Kaliyaperumal Ganeshan HSE Advisor ExxonMobil Asia Pacific Pte Ltd
Kwok Weng Yin Senior Manager JTC Corporation
Lee Yew Poh Freelance, WSHP
Ng Kok Sheng Alvin HSE&F Manager Honeywell Pte Ltd
Phoon Wai Mun EHS Manager Eightree Projects Pte Ltd
Rino Juvy Lim, HSE Manager Keppel Corporation Limited
Sim Kian Chong Senior Manager (Asia) Toll Global Logistics
Tan Chee Teong Freelance, WSHP
Tan Hwee Meng WSH Manager 3S Construction Services Pte Ltd

ASSOCIATE MEMBERS

NAME DESIGNATION COMPANY
---
Amols Philip Erasmus Officer Singapore Armed Forces
Boey Kok Cheng Officer Singapore Armed Forces
Chia Kok Wai QC/Safety Coordinator Novartis Singapore Pharmaceutical Mfg Pte Ltd
Chong Yoke Ping Senior Facilities Manager Jones Lang Lasalle
Eng Chiu Hao HSE Executive Sembcorp Environment Pte Ltd
Fong Hung Ying Head of Safety Management (ActiveSG) Sport Singapore

NAME DESIGNATION COMPANY
---
Jimmy Ser Bock Cheng Officer Singapore Armed Forces
Koay Chin Wah Officer Singapore Armed Forces
Lian Tian Teng Officer Singapore Armed Forces
Loh Mun Yew Director Reur Pte Ltd
Myo Thein Senior WSHO Dy. Manager Nishimatsu Construction Co. Ltd
Neo Kok Peng Business Development Manager Elevating Studio Pte Ltd
Sharon Lim Pey Ping Principal Safety Engineers 3M Singapore Pte Ltd
Siew Wai Hong Officer Singapore Armed Forces
Tan Chin Heng Officer Singapore Armed Forces
William Heng WSH Trainer Freelance, WSHP

CORPORATE MEMBERS

COMPANY
---
Avvery Resources Private Limited

UPGRADE OF MEMBERSHIP

NAME DESIGNATION COMPANY
---
Chan Chee Kin EHS Leader Trane Singapore
Tang Han Kiang, Patrick Lab Tech National University of Singapore

The Singapore Accord is a call to action. It is affirmative action by the leading OHS Professional and Practitioner organisations from around the world to commit to the Global Vision of Prevention through the adoption of a global framework for practice. Such a framework seeks to uphold high standards of competent health and safety professionals and practitioners in creating healthier and safer workplaces.

SUNDAY, 3 SEP 2017 | 2PM-3PM Marina Bay Sands Singapore

SINGAPORE ACCORD ON THE STANDARDS OF OHS PROFESSIONALS

The Singapore Accord seeks to engage governments and public authorities, employers, employee organisations, human resource and talent acquisition bodies, educators and trainers to join the OHS community and commit to enabling the standards set in the framework.

Find out more at www.singaporeaccord.org

ADVERTISING IN SAFETY MATTERS

We welcome advertisements to promote WSH products, services or events. Complimentary copies of SAFETY MATTERS will be provided to advertisers upon request.

Our Advertisement Rate (inclusive GST)

<table>
<thead>
<tr>
<th></th>
<th>Single Advertisement</th>
<th>Package of Four Advertisements</th>
<th>One-page flyer insert (up to A5 size)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SISO Corporate Members</td>
<td>SGD 1,284 per ad</td>
<td>SGD 4,280 (SGD 1,070 per ad x 4 ads)</td>
<td>SGD 1,070 per insert</td>
</tr>
<tr>
<td>Non-SISO Corporate Members</td>
<td>SGD 1,498 per ad</td>
<td>SGD 5,136 (SGD 1,284 per ad x 4 ads)</td>
<td>SGD 1,070 per insert</td>
</tr>
</tbody>
</table>
To encourage a sharing of knowledge, best practices and views over various Workplace Safety and Health (WSH) issues, the Singapore Institution of Safety Officers (SISO) proudly presents its 15th SISO Annual WSHO Conference on 5 October 2017.

This comprehensive event will cover topics like Traffic Safety Management, SG Secure and WSH, and Mental wellbeing/Mindfulness, etc.

The Conference is organised by WSH Professionals for WSH Professionals, as well as any one whose jobs are related to WSH.

Come and register NOW! Limited seats available! For more, visit http://bit.ly/2ugKJ1N

Thursday, 5 October 2017
9am to 5.30pm
Marina Bay Sands Convention Centre
Heliconia Room, Level 3

This year's Conference is pleased to coincide with the Work Safe Asia 2017 exhibition.

CPD Programme: 7 SDUs (Pending Approval)