Unsafe behaviours contributed to more than 85% of the workplace injuries cases!

BBS is one of the more abstracted methods that focused on addressing unsafe human behaviour. There have been many past success stories of BBS implementation in the Manufacturing, Oil and Petroleum & Chemical industries, but BBS has yet to be commonly implemented in our Construction industry.

With greater focus on improving the workplace safety practices in Construction industry, some of the main stake holders are currently embarking on introducing BBS concept to increase the safety culture of the construction workplace.

<table>
<thead>
<tr>
<th>PROGRAMME DETAILS</th>
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<tr>
<td>Date: 13th April 2011 (Friday)</td>
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<tr>
<td>Time: 9.00 am - 1.30pm</td>
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<tr>
<td>Duration: 4 hours</td>
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<tr>
<td>Venue: NTU@One-North Alumni Campus (Buona Vista)</td>
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<td>Fees: (IES / IOSH Members) $80 (Includes GST)</td>
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<tr>
<td>(non-Members) $100 (Includes GST)</td>
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<tr>
<td>CPD Programme: STU / SDU (to be confirmed) / 4 PDU</td>
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<tr>
<td>Organising Committee: Health &amp; Safety Engineering Technical Committee</td>
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</tbody>
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* Fees are inclusive of 7% GST, course materials and light refreshments. Certificate of Attendance will be issued to participants with at least 75% attendance.

OBJECTIVES
The objective of this seminar is to bring together some of the pioneer that have started implementing BBS on construction workplace to share with us how BBS can be practically and effectively implemented in our Singapore’s construction work environment, highlighting the major obstacle and key steps to be taken to successfully implement BBS in a construction workplace.

FOR WHOM
Safety professionals, Developer & Senior Management from Building and Construction Contractors, Resident Engineers and Resident Technical Officers that aspire to improve and enhance their Safety Management practices. Others who are keen to learn the practical experience shared by our speakers may also apply.

SUPPORTED BY

[IOSH Singapore Branch Logo]
<table>
<thead>
<tr>
<th>TIME</th>
<th>MODULE</th>
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</thead>
<tbody>
<tr>
<td>8.30 - 9.00 am</td>
<td>Registration</td>
</tr>
<tr>
<td>9.00 - 9:15 am</td>
<td>Welcome Speech by Er Ho Siong Hin <em>(President of Institution of Engineers, Singapore)</em></td>
</tr>
<tr>
<td>9.15 - 10.10 am</td>
<td>Behavioural-Based Safety - is your organisation ready to embrace? by Mr Andrew TAN</td>
</tr>
<tr>
<td>10.10 - 11.05 am</td>
<td>Cultivating Safety Culture: A Behavioural-Based Safety Approach by Dr Evelyn TEO</td>
</tr>
<tr>
<td>11.05 - 11.35 am</td>
<td>Tea Break</td>
</tr>
<tr>
<td>11.35 - 12.30 pm</td>
<td>BBS: Learnings on Implementation by Mr. SEOW Min Fook</td>
</tr>
<tr>
<td>12.30 - 1.30 pm</td>
<td>A Practical Approach To The Implementation Of BBS Concept by Mr YEO Kim Hock</td>
</tr>
<tr>
<td>1.30 pm</td>
<td>End of Seminar</td>
</tr>
</tbody>
</table>
GUEST OF HONOR

Er. Ho Siong Hin

Er. Ho Siong Hin is the current Commissioner for Workplace Safety and Health. He holds a concurrent position as the Divisional Director for the Ministry of Manpower’s Occupational Safety and Health (OSH) Division.

Er. Ho is a Mechanical Engineering graduate from the University of Auckland, New Zealand. He joined MOM in 1982. In 2005, Er. Ho was appointed to his current position to lead OSH reform in Singapore. The key changes include a push for greater ownership by industry for OSH outcomes and the implementation of risk management across all industry sectors. Er. Ho was instrumental in the formation of the WSH Council in which he is a member. Er. Ho also oversees the establishment of the WSH Institute with a mission to enhance WSH through Knowledge, Innovation and Solution. All these efforts had led to a significant reduction in the fatal accident rates from 4.9 deaths per 100,000 workers in 2004 to 2.2 deaths per 100,000 workers in 2010.

In the regional and international arena, Er. Ho has presented many papers on OSH matters, including China, Hong Kong, Canada, Europe and Australia. Er. Ho was elected Vice President of the International Association of Labour Inspections (IALI) in 2008.

Er. Ho is the President of the Institution of Engineers Singapore (2011-2012). He is a member of the Professional Engineers Board and Chairman of the Advisory Committee to the Chemical Engineering Department of Ngee Ann Polytechnic. He is also a member of the Singapore Accreditation Council by SPRING and chairs the Council Committee on Inspection Bodies.

DISTINGUISHED GUEST

Mr. LIU Png Hock

Director, Safety and Programme Planning, LTA
Head, Projects Management Services, MSI

Mr. Liu is the Director (Safety & Programme Planning). He has more than 25 years of professional working experience in heavy engineering projects. An engineering graduate of the University of Wales, United Kingdom, Mr. Liu joined Singapore Mass Rapid Transit Corporation in 1985 and was involved in the construction of the North-South and East-West lines. Later, in 1990-94, he moved to Shanghai for the construction of Shanghai Metro Line 1 before rejoining LTA in 1994. He had since being involved in more MRT/LRT and roads infrastructure project planning, construction and project management.

At MSI Global Pte Ltd, Mr Liu is the General Manager for MSI (Shanghai). He focuses on the Asia Pacific business development. In 2004, the MSI secured the first contract in China, the Nanjing Line 1 Consultancy Contract for E&M System Integration. In 2006, a second major contract in China was secured, with the signing of the Project Management and Advisory contract with Shentong Consortium, Shanghai, for the MRT Line 10 E&M Systems. MSI was also involved in the Urban Transport Master Planning Study for Nanjing City and Zhoushan Urban Traffic Management Study for improvement to current traffic management framework and traffic congestion during tourism seasons.
Mr. Andrew TAN  
Manager, Safety Division, Land Transport Authority

ANDREW TAN joined LTA’s Safety Division in 1998 to pursue his interest in workplace safety and health (WSH). Out of his 15 years experience in the construction industry, 13 years is in the management of WSH. He was a pioneer in the setting up of LTA’s WSH management framework and the development of WSH education, promotion and training programs to promulgate the WSH culture both within staff and contractors. He has also been involved in the investigation of several major accident cases. Andrew has contributed in various national committees and workgroups providing specialist WSH knowledge and advice.

The projects he had been involved spans across Singapore in Mass Rapid Transit (MRT), Light Rail Transit (LRT), roads and expressways infrastructure. He has worked extensively on North East Line (NEL), Changi Airport Line (CAL), Circle Line Stages 4 & 5, Kallang-Paya Lebar Expressway (KPE) and currently on the Marina Coastal Expressway (MCE).

BEHAVIOURAL-BASED SAFETY - IS YOUR ORGANISATION READY TO EMBRACE?

LTA has implemented many WSH programs and initiatives over the past decade. In its latest push to continually strive for WSH excellence, LTA has successfully completed a pilot BBS program of two major project sites to explore the benefits of such a program to arrest the uptrend of accidents due to unsafe behaviours.

The implementation of BBS will address unsafe behaviours through training and intervention. BBS also promotes a culture of reporting unsafe conditions and unsafe acts of co-workers. This open culture of reporting unsafe conditions and unsafe acts will cultivate a better WSH culture. LTA is actively encouraging all its contractors to implement BBS to derive such benefits.

This presentation aims to share how the pilot BBS program was conducted, through the different stages of the program. Conducting safety culture survey, developing critical behavioural checklists, conducting BBS observations, BBS intervention strategy, design of BBS software and analysis of findings will be shared with participants.

Evelyn TEO Ai Lin (Dr)  
Associate Professor and Director of External Affairs at Department of Building of NUS

Dr Evelyn TEO is Associate Professor and Director of External Affairs at Department of Building of National University of Singapore. She is one of the Consultants for LTA BBS Project, Technical Coordinator of building SMART Singapore Chapter, and the External Advisory Committee Member of building SMART Korea Chapter. She has invented the BIM QTO system and has won an excellent paper award in 2007 for the ‘Deployment Framework to promote the Adoption of Automated Quantities Taking-off System’.

Before moving into teaching, she had many years of professional experience working in the local construction industry, participated in building research works in Australia, and participated in exploring opportunities for joint venture business collaboration in providing information services for Tianjin’s construction industry.

In addition, Evelyn Teo is also active in participating in safety and BIM research projects both locally and internationally as researcher and consultant. She has been appointed as the Judging Panel Member of BIM competitions in Singapore and Korea. In 2012, she will be organizing the International BIM and Safety Competition at the CIB W99 International Safety Conference.

CULTIVATING SAFETY CULTURE: A BEHAVIOURAL-BASED SAFETY APPROACH

A study was conducted to focus on improving safety performance of construction firms by enhancing their safety culture by means of the behavioral-based safety (BBS) approach to correct the unsafe behaviors. The overall results of this study proved the BBS programs’ significance in improving the safety culture of construction firms in Singapore.

The proposed BBS intervention model for enhancement of safety culture and a BBS indicators checklist were constructed and successfully validated by safety experts. This proposed model serves as a tool for contractors in managing the safety performances on site via the BBS approach.
Mr. SEOW Min Fook

SEOW Min Fook was working as Operations and Safety Manager in petroleum processing industry. With Safety as a Line Responsibility, he was accountable for safety activities. He was Chairman of Refinery Safe Operations Committee and also Esso Asia-Pacific Regional Safe Operations Committee.

Contractor safety issues are addressed as vigorously as they constitute a significant workforce in every plant. There were occasions when contractor safety performance surpassed that of regular employees. Best performance was when the Refinery worked for 6 years without a Lost Time Accident.

He was selected to head two major safety initiatives in Singapore: a structured safety management system, and to introduce Behaviour Based Safety.

After retiring from ExxonMobil in 2003, he continued to be active in the safety area. He is a committee member in the Safety and Occupational Health Technical Committee of the Institution of Engineers. He plays an active role in the holding of Seminars on implementation of BBS for Singapore industrial groups. He assisted in the roll-out of BBS in a major food manufacturing organization in Singapore, and as honorary safety consultant to a local construction company.

As a technical advisor to fund managers investing in China, he also worked towards implementing more robust safety management systems in invested companies.

BBS: Learnings on Implementation

As Asia-Pacific representative in his organization, he was involved in a worldwide workgroup to develop a template for Behaviour Based Safety. In the process, he acquired an in-depth knowledge of the process and the challenges. It was rolled out in Singapore, with emphasis on an effective observation program, as it was deemed fundamental in identifying at-risk and safe behaviours, with appropriate follow-up reinforcement. The development was supported by a team of Safety Officers and Coordinators. This model was subsequently used by other Asia Pacific affiliates, including terminals and marketing. New Behaviour Based Safety Tools were incorporated into existing Safety Management Systems, so as to sunset or embed Behavioural principles into them.

Mr. YEO Kim Hock

Divisional Safety Manager, Gammon Private Limited

YEO Kim Hock is overall responsible for the managing and advising on the workplace safety and health (WSH) aspects of all the operations within Singapore.

Kim Hock is a practising HSE professional with than 32 years of experience in the Marine and Construction Sectors. With the later 17 years in the robust and challenging construction industry.

Besides being a HSE professional, he is also a member of the SPRING Technical Committee representing Singapore Contractors Association Limited (SCAL) and a member of the SCAL WSH Sub-Committee.

He is the Convenor for the Work Group to review the SS568-Code of Practice for Confined Space Works. Also a member of the WSHC National Crane Taskforce Committee and was appointed as the Work Group Chairman to review the Technical Advisory on Safe Lifting Operations.

A PRACTICAL APPROACH TO THE IMPLEMENTATION OF BBS CONCEPT.

The key objective of the presentation is to share with participants on the approaches to implement the BBS concept on one of the Gammon’s construction project.

The paper will also highlight the various stages to be adopted for the implementation process from the Gammon’s perspective.

More importantly, participants will able to understand the practical implementation aspects and benefits of BBS strategies leading to an endeavor outcome of ZERO INCIDENT at workplaces.
Registration Form
IES Seminar On Behaviour Based Safety (BBS) Implementation In Construction Industry

Date : 13 April 2012 (Friday)
Time : 9.00am – 1.30pm
Venue : NTU@One-North Alumni Campus (Buona Vista)
Fees * : $80.00 (IES Members) $100.00 (Non-Members)

Please register online/fax the completed form by 30 March 2012 (Friday) before 3 pm to:

Samuel Wong
IES Academy
70 Bukit Tinggi Road (289758)
Tel: 6463 9211 Fax: 6463 9468

Participant Details

*Name : ____________________________  *NRIC : ____________________________
(Please written in BLOCK Letter)

Company : __________________________
*Designation: __________________________

*Address 1 : __________________________
(For mailing of invoice and receipt)

Address 2 : __________________________
(For mailing of Certificate)

*Postal Code : __________________________
Sex : ______ Male / Female __________________________

*Mobile No. : __________________________
Fax : __________________________
(For sending of reminder SMS)

*Your Email : __________________________
(For sending of confirmation email, Preferably personal unless company sponsored)

Please indicate :
☐ IES members IES M’ship No.: __________________________ P.E. No.: __________________________ (if applicable)
☐ Affiliated member Organization: __________________________ Membership No.: __________________________
☐ Non-members
☐ Tick here if Sponsored by company

Contact Person Details (if different from participant)

#Name : __________________________
#Designation : __________________________
#Contact No. : __________________________
Fax : __________________________

#Email : __________________________

Payment Details

Bank / Cheque No : __________________________ Amount ($) : __________________________

~ All Fees are inclusive of 7 % GST.
~ Cheque should be made payable to: “IES”.

Acceptance of Terms and Conditions for Registrations of IES Academy’s Events
I agree to abide by the Terms and Conditions for Registration of IES Academy’s Events.

Name : __________________________
Signature : __________________________

*Mandatory entry
#Compulsory Entry for participant who choose to be INVOICE to your company
TERMS & CONDITIONS COURSE REGISTRATION

Registration
Registration can be done either online or by faxing in the registration form.
Any registration, whether on-line or fax will be on a **first-come-first-served basis** and will only be confirmed upon receipt of full payment by The Institution of Engineers, Singapore (IES).
Email and phone registrations will not be accepted.

Closing Date & Payment
The closing date of the event will be 7 days prior to event commencement date. Cheques should be crossed ‘A/C payee only’ and made payable to ‘IES’, with the **Date of event, Title of The Event and participants’ name indicated clearly on the back of the cheque**, and post to:

IES Academy
70 Bukit Tinggi Road
Singapore 289758
Attn: Samuel Wong

Confirmation of Registration
Confirmation of registration will be given 7 days prior to the commencement date of event via email. If you do not receive the said confirmation email, you are required to contact IESA general admin immediately at 6463 9211 (office).
IESA reserves the right to allow only confirmed and paid registrants to attend the Event.

Withdrawals/Refunds of Fees
Notice of withdrawal must be given in writing to IESA. Policy on refund of course fee is as follows:

- FULL refund if we receive your written notice of withdrawal at least 7 days before the commencement of the Event.
- NO refund otherwise.

No show of participant would not be accepted as reason for withdrawal/refund.
Replacement is allowed but restricted to once only. Replacement will be allowed only if written notice is received by us at least 3 working days before the commencement of the event. However, when an IES member is replaced by a non-member, the participant has to pay the difference in the relevant fees.

Cancellation/Postponement
Changes in Venue, Dates, Time and Speakers for the Events can occur due to unforeseen circumstances. IESA reserves the full rights to cancel or postpone the Event under such circumstances without prior reasons. Every effort, however, will be made to inform the participants or contact person of any cancellation or postponement.

Fees will be refunded in FULL if any Event is cancelled by IESA.

Enquiries
For further enquiries, please contact IESA general office at Tel: 6463 9211.