



# Society of

# Loss Prevention

In the Process Industries

Update

NOV 2010

## EDITORIAL

## Our newsletter is now only in electronic form

It saves some trees and this format is very flexible - it can easily accommodate changes in the number of articles that we publish each time. In this edition, we have a report on the use of [electronic \(computer based\) work permits](http://www.slp.org.sg/techtalks/2010/ISSOW_SLP_2010_v1_0.pdf) ( [http://www.slp.org.sg/techtalks/2010/ISSOW\\_SLP\\_2010\\_v1\\_0.pdf](http://www.slp.org.sg/techtalks/2010/ISSOW_SLP_2010_v1_0.pdf) ) that are integrated with the whole work planning process so that information is readily available for the whole site. Site management and supervisors can therefore exercise better control. This enhances safety and productivity.

As all of us in the process industry know, it is process safety that is of paramount importance for our continued operations and the prosperity of our companies. The area of personnel safety is a given. Without personnel safety standards, we will not be in business. In November and December we are organizing two events on process safety -- a technical talk entitled "Risk Based Process Safety and Safety Culture" ( [http://www.slp.org.sg/techtalks/2010/risk\\_basePSSC.htm](http://www.slp.org.sg/techtalks/2010/risk_basePSSC.htm) ) given by William Bradshaw from ABS Consulting and a 2-day course on "Consequence Analysis and Inherently Safer Design" ( [http://www.slp.org.sg/Consequence\\_Analysis.htm](http://www.slp.org.sg/Consequence_Analysis.htm) ) by Professor Sam Mannan and Mike Sawyer from the Mary Kay O'Connor Process Safety Center, Texas A & M University. These gentlemen are authorities in their fields and we are honored to have them. For more details on these two subjects, see the write-up and the links in this issue.

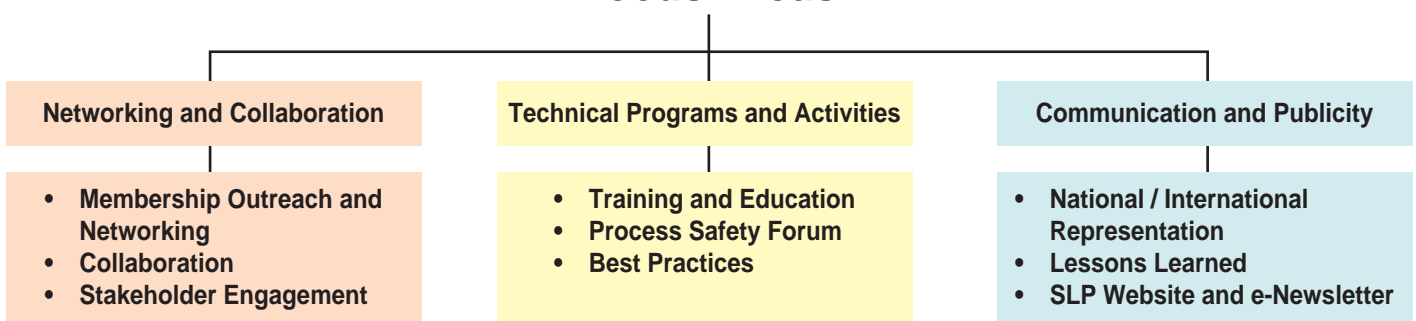
Your newly elected Executive Committee, under Tay Cheng Pheng, is busy drawing up a Strategic Roadmap in support of our Vision and Mission.

## SLP Strategic Roadmap (2011 - 2015)

**Vision** : To be the leading Society for Loss Prevention in the Process Industries in the region

**Mission** : To be advance loss prevention by sharing knowledge, experiences and lessons learned through training, engagement, networking and collaboration.

### Focus Areas



If you have any suggestion on what we should do in support of this, please e-mail our Secretariat.

# Happy reading!

# Electronic Permit to Work System

We organized a Technical Talk on **an Integrated Safe System of Work** on Thursday, 23rd September 2010. It was presented by George Barry, Client Account Manager, Americas and Asia-Pacific, Safe Systems of Work, Petrotechnics, Houston, Texas. Our special guest for the evening was Go Heng Huat, the Deputy Director of Systems Safety, Ministry of Manpower.

The primary objective of this talk was for the speaker to share and discuss the merits of exploiting IT technology to enhance process safety, as well as occupational safety and health management systems, not only for the oil, petrochemical and pharmaceutical industries but for other industries too.

He focused on the compelling reasons for moving from a paper-based safety permit system to an electronic, computer-based system. These are shown below.

1. Sharing work flow information allows all parties - issuing and performing authorities and management - to have easy access to the network system. The same information would be available to all parties and this transparency led to better work planning and coordination.
2. The intelligent navigation system guides the user through each step of the workflow permitting process. This reinforces the inclusion of inputs required under the risk mitigation and LOTO process.
3. The software can be configured to incorporate inherent safeguards to prevent short-circuiting and to pre-empt human errors.
4. It is an excellent tool to store and retrieve information for incident investigation or auditing purposes. It would show who did what and when.
5. It has the capability of enhancing communication with workers of different nationalities by using multi-language software configured to print the permit in the preferred language. This would be especially useful for Singapore because of our multi-racial workforce.

George did a demonstration of Petrotechnics electronic permit system to illustrate some of the above features. This integrated system is coming into its own because of the advances in IT technology.

Following his talk, George and the audience engaged in an interesting Question and Answer session. Members continued discussions with him over dinner. Everyone agreed that it was a great networking opportunity.

Readers who want the full set of presentation slides can [click on this link](http://www.slp.org.sg/techtalks/2010/ISSOW_SLP_2010_v1_0.pdf)  
[http://www.slp.org.sg/techtalks/2010/ISSOW\\_SLP\\_2010\\_v1\\_0.pdf](http://www.slp.org.sg/techtalks/2010/ISSOW_SLP_2010_v1_0.pdf)

*Written by Jacob Soh*



*Above picture: Jacob Soh (right) introducing the speaker, George Barry*



*Left picture: Speaker George Barry engaging some of the enthusiastic audience during the Q and A session*

*Right picture: A view of the audience with special guest, Go Heng Huat, Deputy Director, Systems Safety, MOM, in the foreground (2nd from right)*



# Risk Based Process Safety and Safety Culture

Below is an announcement on a Technical Talk by William Bradshaw on the above subject. Readers will note that the start time is 4.00pm. It is different from our normal schedule. We are doing this as an experiment to see it suits our members better.

## Risk Based Process Safety and Safety Culture

By: William M. Bradshaw

Acting General Manager - South Pacific Region ABS Consulting Inc.

<b>Date:</b>	<b>Thursday, 25 November 2010</b>
<b>Time:</b>	<b>1600 - 1730 hrs</b>
<b>Venue:</b>	<b>S'pore Polytechnic Graduatesí Guild 1010 Dover Rd Gate 4, Singapore 139658</b>
<b>Cost:</b>	<b>Free for SLP Members and 2 Nominees from each SLP Corporate Member Non members will be charged \$40.00 per person</b>
<b>Closing Date:</b>	<b>18 November 2010</b>

### Synopsis

Risk Based Process Safety (RBPS) was developed by the American Institute of Chemical Engineers (AIChE) Center for Chemical Process Safety (CCPS) and has been described by the AIChE as the framework for the next generation of process safety management systems. It is based on the simple premise that process safety excellence is supported by four key pillars:

- Commit to process safety
- Understand hazards and risk
- Manage risk
- Learn from experience

These pillars are supported by a total of 20 RBPS elements, many of which are applicable to all facilities in the process industries. This new framework for process safety builds upon the original ideas published by the CCPS in the late 1980s; integrates industry lessons learned over the intervening years; applies the management system principles of plan, do, check, act; and organizes them in a way that will be useful to all organizations - even those with relatively lower hazard activities - throughout the facility's life cycle. It also expands the CCPS's original focus on management accountability to include the broader topic of safety culture, which based on analysis of several major process safety incidents that have occurred over the past 5 years, has been termed by many to be the "root cause of the decade."

The presentation will conclude with a discussion of research that ABS Consulting has done over the past several years for the American Institute of Chemical Engineers (AIChE) to identify cultural aspects that are common to a number of companies/facilities that (1) have a track record of exemplary process safety performance and (2) focus on establishing a common culture as a key part of promoting process safety performance. This research, which was spawned from a paper written by ABS Consulting titled *Essential Elements of a Sound Safety Culture*, identified 12 essential features of a sound process safety culture.

### About the Speaker

**William M. (Bill) Bradshaw** is Acting General Manager for ABS Consulting's South Pacific Region. He has more than 30 years of experience in chemical and nuclear industries. He led the recently completed effort to write the book *Risk Based Process Safety* for the American Institute of Chemical Engineers Center for Chemical Process Safety (CCPS). The CCPS has stated that this book will chart the future direction of process safety management for the next 10 or more years. He has also coauthored the soon to be published CCPS book titled *Conduct of Operations and Operational Discipline*, and has contributed to CCPS books titled *Guidelines for Mechanical Integrity Systems*, *Guidelines for Management of Change for Process Safety*, and *Layer of Protection Analysis: Simplified Process Risk Assessment*. He is the primary instructor for ABS Consulting's courses on process safety management and management of change, and also instructs courses on auditing, process hazard analysis, mechanical integrity, layer of protection analysis, and risk-based process safety.

Before joining ABS Consulting in 1998, Bill Bradshaw served in a variety of plant and business positions with ICI Acrylics, Inc., including plant maintenance manager, production superintendent, operations manager, and North American business engineering and technology manager. His other assignments have included technology development positions at the Oak Ridge Gaseous Diffusion Plant, Y-12 National Security Complex, and Oak Ridge National Laboratory, and project/process engineering assignments while serving in the U.S. Army. He has extensive experience with processes involving highly hazardous chemicals, including nerve agent and a variety of nonlethal chemical weapons and explosives, UF<sub>6</sub>, and flammable liquids.

Bill Bradshaw holds a B.E. degree in Chemical Engineering from Vanderbilt University and a M.S. degree in Engineering Mechanics from the University of Tennessee.

As seats are limited, registration will be on a first-come-first-serve basis.

Interested members are kindly requested to reply to Penny Pan at [secretariat@slp.org.sg](mailto:secretariat@slp.org.sg) **before 18 November 2010**.