

SLP Society of *Loss Prevention* *Update*

In the Process Industries

FEB 2011

President's Message

Happy New Year to all!

I hope 2011 has begun well for you and your family.



As you maybe aware, 2010 has been a very busy year for SLP. We had conducted several impactful workshops, training and technical talks for the members and also upgraded our website to make it easier for your viewing.

Members of Executive Committee will continue to do our best to roll out loss prevention and process safety related programs relevant for the members. During the last Ex-Co meetings, we felt it was timely to reaffirm our Vision and Mission.

The following three working committees had been established to work on the areas of focus and to develop specific programs to better serve the needs of the members.

VISION: To be the leading society for loss prevention in the process industries in the region.

MISSION: To advance loss prevention by sharing knowledge, experience and lessons learnt through training, engagement, networking and collaboration.

WORKING COMMITTEES:

1. Networking and Collaboration - Chaired by Mr CS Teng
2. Technical Program and Activities - Chaired by Mr Ivan Sin
3. Communication and Publicity - Chaired by Prof Reginald Tan

Our Secretariat will update members from time to time on the upcoming events and activities. I urge you to continue visiting our website at <http://www.slp.org.sg> for latest information on the events and activities.

I would like to take this opportunity to thank the members of Executive Committee who sacrificed their family and personal time in organizing the events and activities and doing the good works for SLP.

I hope that if you have any ideas on how SLP might further improve, please provide your feedback and suggestions through email to the SLP Secretariat at secretariat@slp.org.sg.

Lastly, I wish all a safe, healthy, happy and prosperous 2011.

Written By: Tay Cheng Pheng

Editor's Note

Happy



to all!

**Welcome to
First Issue of 2011's
SLP e-newsletter.**

We target to publish three e-newsletters in 2011 based on the numerous programs that SLP will be going to roll out in 2011. There will be one between 2Q and 3Q and another in 4Q.

Kindly, please send us feedback about our new format and also on the website. It is our goal to improve and make this e-newsletter interesting and informative to you.

Written By: Anthony Neo

Technical Talk on Risk Based Process Safety and Safety Culture

By: Mr. William M. Bradshaw

Acting General Manager - South Pacific Region ABS Consulting Inc.

SLP invited Mr. Bradshaw to give a technical talk on Risk Based Process Safety (RBPS) and Safety Culture. The talk was held on 25-Nov-2010 afternoon at Singapore Polytechnic Graduates' Guild. It was an interactive talk, and question and answer session was fruitful.

RBPS was developed by the American Institute of Chemical Engineers' (AIChE's) 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



Mr CS Teng welcoming participants to the Technical Talk.

over the past 5 years, has been termed by many to be the "root cause of the decade."

Mr. Bradshaw also shared a research that ABS Consulting has done over the past several years 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.

Written by CS Teng



Section of participants listened intently to Mr Bradshaw.

Two-Day Course on Consequence Analysis & Inherently Safer Design

By: Dr Sam Mannan
Director - Mary Kay O'Connor Process Safety Center
Chemical Engineering Department, Texas A&M University

A total of 23 participants gathered at the Singapore Polytechnic Graduates Guild on the 6th & 7th of December 2010 to learn from Regents Professor, Dr. Sam Mannan of Texas A&M University.

Professor Mannan was awarded the status of a Regents Professor and the title of T. Michael O'Connor Chair I for his contribution towards process safety.

This two-day course was specially put together for SLP by Professor Mannan during his entourage to Asia. SLP is indeed honored and privileged to have Professor Mannan during his short stay in Singapore.

The first day covered the fundamentals of consequence analysis, a tool that all learned to use it more meaningfully during the design phase and emergency planning stage of any process plant. Otherwise, it may then be used more critically during the post-incident investigation phase; to verify or validate evidence and findings.

Professor Mannan's personal account as an independent reviewer of UK's Buncefield Tankfarm Fire was both insightful and complementing when dealing with the subject of consequence analysis. His personal experience of how consequence modeling tools are used during design and planning stages of a plant's life cycle vis-a-vis post-incident investigation was a key takeaway by all.

Many would go away with the vividly memory of the Buncefield field test experiment results Professor Mannan shared during his case study sharing on vapor cloud deflagration and detonation.

Key contents of consequence analysis covered were methods for evaluating the consequences of flammable and toxic vapor



Dr. Mannan addressing attentive participants during a subject on Human Error.

cloud dispersion, vapor cloud explosions, confined explosions, pool fires, flare and torch fires, and Boiling Liquid Expanding Vapor Explosion (BLEVE). Theoretical research and experimental data were presented to support the choice of models for specific applications. Examples of actual accidents were illustrated and validated with the models used.

The second day of the course focused on the basics of inherently safer design; covering the elimination of hazards from manufacturing processes, rather than the management and control of those hazards. This second part of the course introduced the concepts of inherently safer process design and discussed implementation of these concepts throughout the process life cycle from early research through an operating plant.

Tools for designing inherently safer processes were discussed, as well as tools for measuring inherent safety. Many practical examples from industry will be highlighted; covering topics such as Hazard Identification, Risk Assessment, Layers of Protection, and Traditional Risk Reduction versus Inherent Safety; giving the participants a holistic view of how inherent safer design can benefit the petrochemical operations and the processing facilities throughout the plant's life cycle.

Nonetheless, at the back of our mind when we part, we hope that the dedication, commitments & investments ploughed into process safety, be it through inherently greener & safer designs or consequence modeling; Process Safety remains our utmost concern.

Written by Ivan Sin



Participants working hard during the breakout session.



Mr Solomon Lee received his certificate from Dr Mannan after the 2-day session.

Upcoming Events / Activities from Working Committees

We are going to have an exciting year in SLP. Three working committees have been formed to better serve the members and to enable SLP better recognized as a society that bring value to loss prevention and process safety movement in Singapore.

The Networking and Collaboration Committee led by Mr CS Teng have drawn out plan for the first-ever Process Safety Seminar whereby our own home-grown process safety practitioners will gather together and share practical knowledge and know-how on process safety.

The Communication and Publicity Committee led by Prof Reginald Tan have started work to improve on SLP website and e-newsletter. More write-ups on corporate member's company safety cultures, initiatives and programs, new column on process safety alerts, incident sharing, etc. are coming your way. The Committee will continue to represent SLP in technical advisory of new safety and health regulations and to position SLP credential as the leading society among safety practitioners.

The Technical Programs and Activities Committee led by Mr Ivan Sin have finalized some technical talks for 1Q and 2Q and will be conducting a simple survey to find out the training course that the members would like SLP to organize for them.

We would like to encourage you to comment, suggest, feedback and contribute to the movement of SLP so that we are richer for it.

By Anthony Neo

Recognition Dinner with Mr Ong See Hee, Past President of SLP

Members of Executive Committee organised a dinner with our immediate past President, Mr Ong See Hee on 28th December 2010 to recognise his outstanding leadership, service and dedication to SLP.

See Hee is a founding member of SLP. He has served in the SLP Executive Committee for twenty years with the last four years from 2006 to 2010 as President of SLP. He requested to step down in June 2010 due to his work commitments that required intensive travelling. However, he remains a dear friend and advisor to the Executive Committee.

On behalf of the Executive Committee, our President, Mr. CP Tay presented a token of appreciation to See Hee and thanked him for his past contributions.

SLP is indeed indebted to See Hee's immense contributions for such a long time. We wish him well in his future endeavours. We continue to look forward to his guidance and wisdom that he had shared selflessly with SLP.

Written by Ngiam Tong Yuen