

SLP Conference 2005 - "New Initiatives In Loss Prevention"

September 21 and 22, 2005

The Society organised a conference on "New Initiatives in Loss Prevention" to bring members up to date in developments in environmental protection, occupational safety, loss prevention and SHE management systems.

The conference had key note addresses by two distinguished speakers. Mr. Ho Siong Hin, Director of the Occupational Safety & Health Division of the Ministry of Manpower, gave an update on the successes that the MOM had had in applying the concepts of Learning Organizations in Occupational Safety and Health Management. Mr. Hans Pijnenburg, Manufacturing Manager of ExxonMobil Chemical Operations Private Limited shared Exxon Mobil's SHE philosophy, culture and practices.

Mr. Gregory Poi, a Lecturer with the School of Chemical and Life Science in Singapore Polytechnic, presented a paper on "Biodegradation of Phenolic Wastewater by Biofilm Forming Microorganisms" to efficiently remove organic pollutants.

Dr. Raj Srinivasan, Associate Professor of the Department of Chemical & Biomolecular Engineering, National University of Singapore, presented "Alarm Management". He shared some new technologies for alarm management that would provide the right information to plant personnel to better handle normal and abnormal situations in a plant.

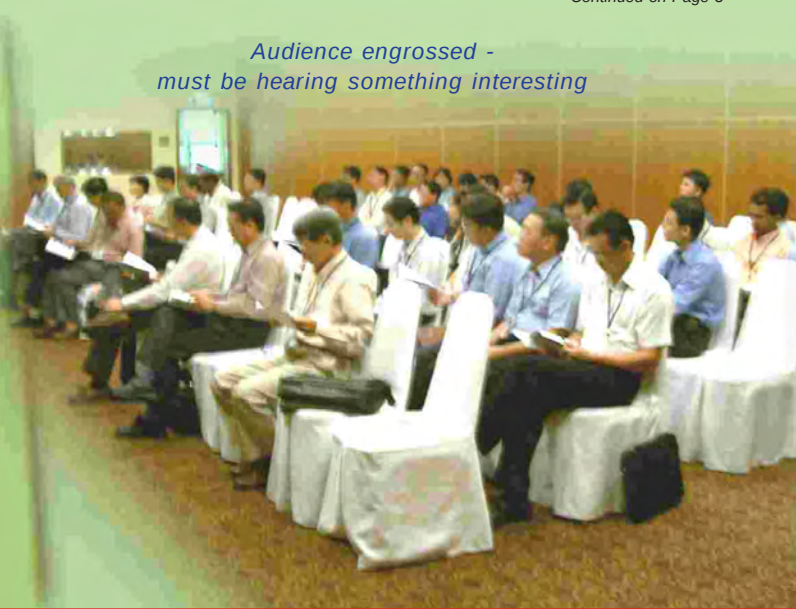
Mr. John Lockwood, Senior Risk Consultant, International Refinery Services Pte Ltd, and his team spoke on "Fires and Explosions". They discussed the factors that influence the magnitude of explosion overpressures. The talk was illustrated by 3 recent examples of catastrophic explosions in the process industry.

Mr. Richard Gillis, SLP's President presented a paper on the "Global Harmonization System for Classification & Labeling of Chemicals". Richard outlined the scope of GHS and described how the GHS could be implemented in Singapore. He followed up with a GHS workshop on the second day.

Our President Richard Gillis welcoming attendees and declaring the conference open

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Audience engrossed - must be hearing something interesting



Editorial



Merry Christmas



Nearly everyone seems to say that time is flying by so quickly. It cannot be that the earth is spinning faster or that the earth is revolving round the sun more quickly. (As a matter of fact, the earth's rotation is actually slowing down.) So we have to look elsewhere for the explanation for this phenomenon. We must all be very busy and we must all be quite happy for time to be flashing by. For SLP, it is certainly true that 2005 has passed very quickly. We have had an extremely busy and productive year.

Our biggest project was the 2-day conference on New Initiatives in Loss Prevention in September. We not only presented interesting and topical papers, we engaged the audience in thought provoking discussions. We have one regret though about the conference, and that is that we should have had more participants.

We conducted two successful courses on Job Safety Analysis (JSA). The first course in May was over subscribed and we followed up with a second course in October.

Now we, together with the Institution of Engineers, Singapore, are in the midst of organizing a 2-day training course on Emergency Response Planning (ERP) in January 2006. This promises to be a 'must attend' event.

We found time to conduct a number of Technical Talks on subjects ranging from Lessons from Accident Investigations, Bioremediation, Cyberterrorism and Corporate Security Awareness. We arranged a visit to GlaxoSmithKline's plant at Tuas. Members who went on the visit will agree that it was a delight to see such a well-maintained plant.

We never fail to enjoy ourselves either. Ask anyone who attended our Annual Members' Night in April.

SLP's stature was enhanced this year when the Ministry of Manpower recognized us a professional association under its

Continuing Professional Development program for Registered Safety Officers. With this recognition, membership in SLP, participation in SLP committees, and attendance at technical talks and plant visits all qualify for Safety Development Units (SDU). Also as an Accredited Continuing Professional Development Course Provider. SLP training courses such as the one on JSA will qualify for SDU's.

We continue to be represented on SPRING Singapore's technical committees.

In 2006, we will be electing a new Executive Committee. Members must think seriously about leadership renewal. It is important for the continuing growth of SLP. A step in this direction has been taken by Exco. by co-opting two members. They are Teng Chong Seng and Gregory Poi. We need more members to step forward. Let us make this a New year resolution for 2006.

This is the time of the year for festivals and celebrations. Our Hindu and Muslim friends have recently celebrated Deepavali and Hari Raya Aidil Fitri. We hope they and their families celebrated these festivals with joy and happiness..

Christmas is just round the corner. To our Christian friends we wish you a Merry Christmas.

For everyone,

*Season's Greetings
and
A Happy and Safe
New Year.*



President's Message

The European Agency for Safety and Health at Work in 2004 published "Corporate Social Responsibility and Safety and Health at Work" (http://agency.osha.eu.int/publications/reports/210/csr_report_en_en.pdf).

Corporate Social Responsibility (CSR) has been defined as the integration of social and environmental concerns in an organisation's operations and their interaction with stakeholders. To be socially responsible, an organisation has to go beyond fulfilling its legal expectations. It also means investing 'more' in human capital, the environment and its relations with stakeholders.

CSR is not a new concept. It has recently come to the fore because of an increased interest and sensitivity to organisational environmental and ethical issues in the community. Examples include corporate financial failures, environmental damage, improper treatment of workers, and serious plant accidents that impact the community. Process industry incidents include Bhopal (the 21st anniversary is about now), the Toulouse incident (occurred just after 9/11 and killed 29 people) and most recently the Jilin incident. Not all incidents are acute. Chronic issues such as global warming are also seen to be linked to CSR.

Safe working conditions, good worker health and minimal impact to the environment belong to the social responsibilities of companies and can be regarded as an integral part of CSR. For any company, including chemical companies, this includes the

SH&E performance at all their sites globally and also in their supply chains.

CSR is also linked to sustainable development. In the process industries this involves the newly emerging disciplines of green chemistry and green engineering.

CSR is not agreed by everyone to be the correct role of profit making enterprises. One notable critic is the Nobel Laureate Milton Friedman. However there is a sufficient mass of supporters of CSR that a company needs to pay more than lip service to be perceived as being a good corporate citizen. One example is the ethical investment funds that only invest in companies that pass tests of ethical, socially responsible and environmentally responsible behaviour. In response to these concerns many organisations are now preparing annual CSR reports.

Whatever your opinion of CSR may be; CSR will not go away. Ensuring your organisation has a sound SH&E policy and programmes that could be shared with the world at large will help your organisation meet future CSR requirements.

Reading the European Agency report will help you understand the drivers your organisation and you are facing.



Mr. Chew Khien Kuan, Safety Engineer of ExxonMobil Manufacturing Engineering Singapore, presented a short paper on "Reporting & Disseminating Information on High Learning Value Incidents". Khien Kuan then joined Mr. Ngiam Tong Yuen, Hon. Secretary, and Mr. Tay Cheng Pheng, an Executive Committee Member, in a panel discussion on "Going Beyond the Obvious in Incident Investigations". This proved to be a very lively session as members of the audience readily shared their opinions and experience on this topical subject.

This was a good note on which to end Day 1 of the conference.

(Editor's note: This article will be in two parts. Part 1 will cover Day 1 of the conference where formal presentations were made. Part 2 will cover the Workshops on Day 2.)

By Sam Tsen



Key note speakers Mr Ho Siong Hin (3rd from left) and Mr Hans Pijnenburg (4th from left, partly obscured) interacting with attendees before the conference



Coffee break time is always good for networking



Richard introducing the subject. Members taking the opportunity to network before the talk.

On Wednesday, 26 October 2005, a group of Loss Prevention practitioners gathered at the Jurong Country Club to attend a technical talk on Corporate Security Awareness.

The speaker was Mr Royston Tan, Regional Manager of Xvolution Pte Ltd. He was supported by Mr Yong Hua Yong, the General Manager of APAC I – Security Pte Ltd. Mr Tan started his one-hour presentation by defining a terrorist. His main point is that a terrorist is a criminal and should be regarded as such. He showed us pictures and diagrams of terrorist devices - usually called Improvised Explosive Devices (IED)—such as modified mobile phones and even envelopes. It seems that the shape and size of an IED is only limited by the imagination of the terrorist. Hence the great danger posed to a largely ignorant civilian population. He had pictures of field experiments that demonstrated the destructive power IED's. These devices, made from lethal, noxious and/or pyrotechnic chemicals, are designed to kill, maim, disfigure, destroy, distract or harass the target victims. Various ways of disarming an IED were also illustrated and discussed.

Mr Yong Hua Yong receiving his memento from Richard



Technical Talk on Corporate Security Awareness

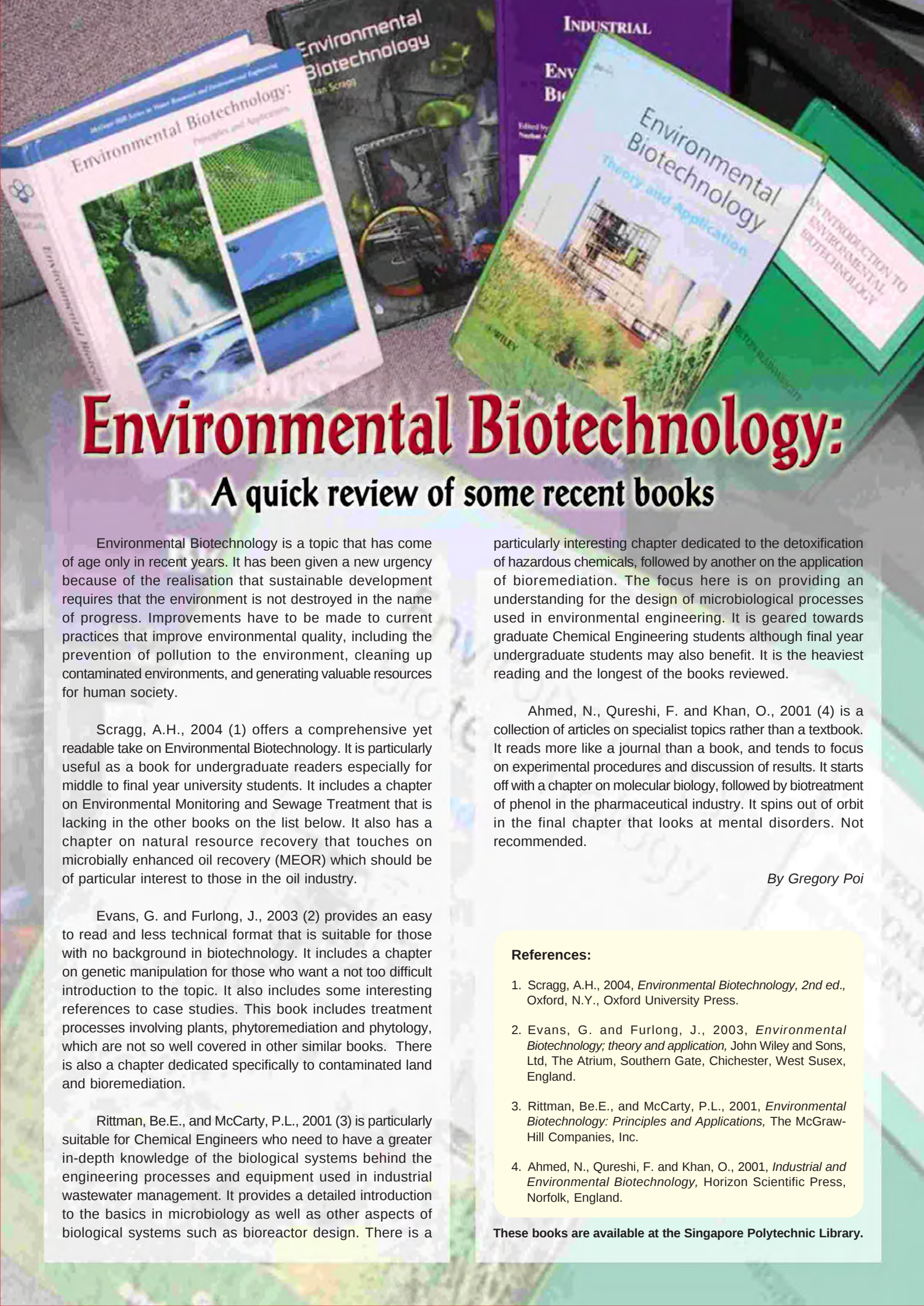
In this kind of environment, emergency response procedures had to be re-thought. For example, a terrorist could set off a device in a building to distract the emergency responders while concealing his real purpose. In a case like this, the real target could be the 'safe' evacuation assembly points. The terrorist could set off a really destructive explosion when all the evacuees are gathered at the assembly point. Thus evacuation routes and assembly points have to be completely re-thought. The old rules on ERP do not apply any more.

Mr Tan discussed several incidents that had taken place in Asia Pacific, Europe and North America. These incidents involved toxic gases, biologically active agents and explosives.

Companies and organizations could protect themselves by being prepared. Awareness training had to be taken seriously. Security professionals had to re-think emergency response plans and procedures. These same professionals had to be adequately trained. Building and plant security had to be improved.

A lively discussion took place after the presentation and during the dinner that followed. Companies and organizations that wish to learn more about this important subject are encouraged to consult the companies that are represented by Mr Tan and Mr Yong.

By Ngiam Bo Han



Environmental Biotechnology:

A quick review of some recent books

Environmental Biotechnology is a topic that has come of age only in recent years. It has been given a new urgency because of the realisation that sustainable development requires that the environment is not destroyed in the name of progress. Improvements have to be made to current practices that improve environmental quality, including the prevention of pollution to the environment, cleaning up contaminated environments, and generating valuable resources for human society.

Scragg, A.H., 2004 (1) offers a comprehensive yet readable take on Environmental Biotechnology. It is particularly useful as a book for undergraduate readers especially for middle to final year university students. It includes a chapter on Environmental Monitoring and Sewage Treatment that is lacking in the other books on the list below. It also has a chapter on natural resource recovery that touches on microbially enhanced oil recovery (MEOR) which should be of particular interest to those in the oil industry.

Evans, G. and Furlong, J., 2003 (2) provides an easy to read and less technical format that is suitable for those with no background in biotechnology. It includes a chapter on genetic manipulation for those who want a not too difficult introduction to the topic. It also includes some interesting references to case studies. This book includes treatment processes involving plants, phytoremediation and phytology, which are not so well covered in other similar books. There is also a chapter dedicated specifically to contaminated land and bioremediation.

Rittman, Be.E., and McCarty, P.L., 2001 (3) is particularly suitable for Chemical Engineers who need to have a greater in-depth knowledge of the biological systems behind the engineering processes and equipment used in industrial wastewater management. It provides a detailed introduction to the basics in microbiology as well as other aspects of biological systems such as bioreactor design. There is a

particularly interesting chapter dedicated to the detoxification of hazardous chemicals, followed by another on the application of bioremediation. The focus here is on providing an understanding for the design of microbiological processes used in environmental engineering. It is geared towards graduate Chemical Engineering students although final year undergraduate students may also benefit. It is the heaviest reading and the longest of the books reviewed.

Ahmed, N., Qureshi, F. and Khan, O., 2001 (4) is a collection of articles on specialist topics rather than a textbook. It reads more like a journal than a book, and tends to focus on experimental procedures and discussion of results. It starts off with a chapter on molecular biology, followed by biotreatment of phenol in the pharmaceutical industry. It spins out of orbit in the final chapter that looks at mental disorders. Not recommended.

By Gregory Poi

References:

1. Scragg, A.H., 2004, *Environmental Biotechnology*, 2nd ed., Oxford, N.Y., Oxford University Press.
2. Evans, G. and Furlong, J., 2003, *Environmental Biotechnology; theory and application*, John Wiley and Sons, Ltd, The Atrium, Southern Gate, Chichester, West Sussex, England.
3. Rittman, Be.E., and McCarty, P.L., 2001, *Environmental Biotechnology: Principles and Applications*, The McGraw-Hill Companies, Inc.
4. Ahmed, N., Qureshi, F. and Khan, O., 2001, *Industrial and Environmental Biotechnology*, Horizon Scientific Press, Norfolk, England.

These books are available at the Singapore Polytechnic Library.

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OB Safety Analysis

WHAT IS JSA?

JSA is a systematic method to ensure that jobs are carried out safely by,

- *Identifying the HAZARDS associated with each job step, and*
- *Developing SOLUTIONS to each hazard that either ELIMINATE it or CONTROL it*

Left to right:

- 1) *Ms Lam Kit Wing ably registering a participant at JSA 1*
- 2) *The Dynamic Duo, John Lockwood and Tan Kian Hock combining seamlessly at JSA 2*
- 3) *The flip charts on the wall testify to the high participation level during the workshop sessions*
- 4) *John Lockwood hard at work*

SLP and the Singapore Chapter of the Institution of Chemical Engineers held two courses on Job Safety Analysis (JSA) this year. This is the first time that SLP and I Chem E are collaborating to hold training courses on a Safety, Health and Environment (SHE) subject. Both our groups have a common interest in promoting the science and practice of safety, health and the environment. In fact our connection goes even further. The instructor for both the courses was John Lockwood, a prominent consultant in the SHE area and a senior member of both SLP and I Chem E.

The first one-day course was held on May 18 at the Riverview Copthorne for just over 100 participants. The response was so overwhelming-- we had more than 20 people on the waiting list -- that a decision was taken to conduct a second course. Learning from the first course, we restricted the number of participants to a maximum of 40 for the second round. This was held at the Jurong Country Club on October 5.

John was ably supported by his colleagues from International Refinery Services, Clarence Liew and Thia Cheong Meng, for the first course. His co-instructor for the second course was Tan Kian Hock, a member of I Chem E, and an SHE consultant with more than 30 years experience in the petroleum refining industry.

JSA is attracting much attention nowadays. Reflecting this trend, the participants for the two courses came from a very wide spectrum of industries. As expected, the petroleum, petro-chemical, chemical and pharmaceutical manufacturing industries were well represented. Participants also came from food manufacturers, ship yards, equipment suppliers, logistics service providers, construction firms and even people from the regulatory authority. Because of this wide representation, the selection of case studies for the workshop section of the program presented a challenge. It was difficult to satisfy everybody.

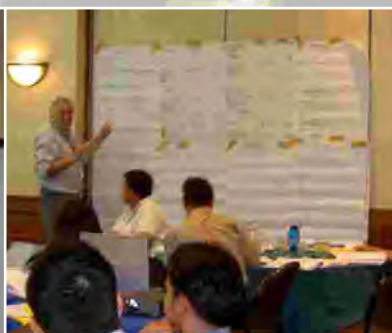
The course was a mixture of lectures to provide the theoretical principles and working sessions to provide practice for the participants. Cases were taken from different work situations eg. working in confined spaces and electrical sub-stations. No course on JSA would be complete without a consideration of Risk Analysis/Assessment. Participants were thus introduced to a simple to use qualitative method of doing this. Participants were also updated on the requirements of the soon to be implemented OSH Act.

Participants were provided with check lists and standard worksheets to do JSA. Thus they could immediately apply the JSA techniques on their return to their work places.

The two courses were judged to be very useful by the participants. As mentioned earlier, participants wanted more examples from their own industry. This is not unexpected in view of the many different industries represented at the course.

SLP and its partners will present more such courses in the future. It is now a Singapore national goal to reduce serious work accidents by 50 %. This goal is achievable. SHE practitioners know how to do it! Let's go!

By Ngiam Tong Yuen



Joint SLP/IES course on Emergency Response Planning

Members will be pleased to know that we and the Institution of Engineers, Singapore (IES), are jointly organizing a 2-day training course on Emergency Response Planning (ERP). This is not the first time that we are collaborating with IES to put on a training course. Members will remember that we jointly organized the launch of our Emergency Response Planning Guide in November 2001. Our President Richard Gillis has also spoken at IES technical training courses. IES is the national professional society for the engineering profession in Singapore. Some SLP members are also members of IES.

This course is being held on January 19 and 20, 2006 at the York Hotel. While our ERP Guide will be used as the basis for discussing the emergency plan, we will be adding features to the training course in order to bring our thinking up to date. For instance, no ERP in this day and age will be complete without a consideration of **security** matters. Therefore a prominent consultant in the security area, Mr Chris Bala from CJ Security Consulting Group will be speaking about the security considerations for an ERP. Mr Nathaniel Forbes, a well-known practitioner in Business Continuity Planning (BCP) from Forbes Calamity Prevention, and an associate will speak on BCP.

Our audience will come from a wide spectrum of industries. The chemical, petrochemical and pharmaceutical industries, our traditional source of SLP memberships, will of course, be well represented. IES represents a much wider constituency and we expect attendees from the ship building, metal working, electronic, building and construction and

transportation industries. Attendees from builders of our infrastructures such as the MRT and deep tunnel sewerage system are also expected. Hence Professor Natarajan Krishnamurthy will deal with civil/structural engineering design considerations for an ERP for a large scale infrastructural project.

SLP is providing three speakers. They are Richard Gillis, Ong See Hee and Ngiam Tong Yuen. Richard and Tong Yuen will deal with the elements of an ERP. This is the foundation for any good plan. See Hee will present a paper on how to plan and execute a table top exercise for an ERP. Such an exercise is important to identify weaknesses in a plan before it is tested in a life drill.

SCDF is providing a speaker to give an overview of the national perspective on ERP.

This rich mix of subjects and target audience will make for very lively discussions during the course. There is no doubt that attendees will be enriched by the experience.

Members should attend this training course themselves and to encourage their colleagues and business associates to do the same.

Remember, when an emergency occurs, half the battle is already won if you are prepared.

By Ngiam Tong Yuen

Welcome We extend a warm welcome to:

ORDINARY MEMBERS

Ms Sarojini Devi – Saro graduated from Singapore Polytechnic in 1992 and has 8 years experience in the Food Industry. Her main concern was Quality. She is also qualified in Marketing. Now she is with Proact Chemicals Singapore Pte Ltd where her responsibilities cover SHE issues.

Mr Raj Singh – Raj is an experienced SHE practitioner. He is SHE Manager for Singapore Takada Industries Pte Ltd. In his career he has worked in the marine industry both in shipbuilding and repair. He has also worked in large petroleum and chemical construction projects. He is recognised by the Ministry of Manpower and the National Environment Agency as an Assessor for Hot Work and working in Confined Spaces.

ASSOCIATE MEMBERS

Mr Tommy C Y Chan – Tommy is Marketing Director in a Freight Forwarding Company. He is the Safety Manager for his company. He has Certificates in Safety and Project Management, and Scaffolding issued by the Ministry of Manpower. In this regard, he has many years of experience in petroleum refining where he was in charge of scaffolding for maintenance and repair, and construction projects.

We look forward to meeting and interacting with these members at our activities. We have no doubt that they will not only gain some new knowledge and insights, they will also contribute their share to the sum of SHE knowledge in Singapore.