Mr. Kenneth Harrington, Senior Process Safety Adviser, Chevron Phillips Chemicals Company (CPChem) presented a talk on “Lessons learned from an accident investigation” to about 30 SLP members and guests on March 23, 2005 at the Jurong Country Club.

The primary purpose of accident investigation and analysis is to determine the root cause of the accident so that a repeat of the accident can be avoided. As such, the accident investigation must produce factual information leading to the basic/root causes that can reasonably be identified. These basic/root causes ideally should also be in areas that a manager/owner has control over and can put right.

Mr Harrington cited the Sierra Chemical’s Kean Canyon Explosive Manufacturing Plant accident investigation, with which he was personally involved in. Ken shared the lessons learned from this investigation. He presented the following root causes, mostly process safety system issues, established by the investigation team on the Sierra explosion:

- Process hazard analysis was inadequate
- Training programs were inadequate
- MOC (management of change) of personnel was inadequate
- Written operating procedures were not available
- The facility was built with insufficient separation distances
- There was no systematic safety inspection or audit program
- Employee participation was inadequate

A contributory cause was the inadequate oversight (inspection/monitoring) of the plant by the regulatory body.

The full investigation report is available on the Chemical Safety Board (CSB) USA website.

As for the lessons learned from this accident, Ken stressed that effective operator training and technical management of process safety are critical to prevent catastrophic events such as the Sierra Chemical Company explosion. These root causes were serious system problems and pointed to management failures within the organization.

In his presentation, Ken also elaborated on the requirements for effective accident investigation. He highlighted the following key points:

**Preparation** – have everything ready well ahead of time
- “Go bag” – investigation supplies
- Trained personnel
- Investigation technique
- Interviewing skills
- List of specialists and specialty laboratories

**Competing Objectives** – bias of investigation body will skew the results. For this accident, there were several investigations going on.
- Sierra Chemicals
- Local police
- Occupational Safety and Health Administration (OSHA)
- Bureau of Alcohol, Tobacco, and Firearms (ATF)

**Analysis Method** – choose an analysis method appropriate to the complexity of the accident.
- US Department of Energy Accident Investigation Procedure
- MORT (Management Oversight Risk Tree)
- TapRoot®
- Why-Tree
- Checklist

**Prioritize Investigation** – Choose analysis detail based on risk assuming failure of the most critical safeguard is credible or probable.
This issue is the last one before our Annual General Meeting (AGM). This important event is being held on June 30. Normally, your Executive Committee would be elected at the AGM. This year is, however, our in-between year. This means that we will not be electing any council member except for the Hon. Treasurer who is elected every year. The other council members are elected to serve two-year terms. You should use the upcoming AGM as a way to stimulate some thinking about where you want your SLP to go. Can we do more? Can we do better? Obviously, the answer is yes to both questions. No organization can stand still and hope to survive. SLP, being a voluntary professional society, is dependent on its members’ voluntary contributions for its well being. How can members contribute? They can serve on its executive committee and sub-committees. They can present technical talks. This is our most frequent activity. Our members have wide and useful experience to share. Without blowing our own trumpet too much, we can point to the outstanding SHE performance of the industries we work in. As we all know, the performance did not come about miraculously. It points to the fact that we do know something quite precious. Let’s share this wealth. In past technical talks, the question and answer session that followed each talk had been as enlightening as the talk itself. So everyone present had enriched the proceedings and had benefited. Even if you do not present the talk, you can share your experience and most definitely increase your knowledge. Our next technical talk is on May 25 on Bio-remediation as a means to decontaminate oily residues. It is by Mr Gregory Poi, an SLP member, who is a lecturer at the Singapore Polytechnic School of Chemical and Life Sciences.

Members can present papers at our conferences and seminars. This year, we are having our local conference, “New Initiatives in Loss Prevention”, on September 21 and 22. Many of our members are not only presenting papers, they are also leading workshops. See the article on this conference for more details.

Members may conduct training courses. The training course on May 18 on Job Safety Analysis (JSA) is taught by Mr John Lockwood, an SLP member and a well known safety professional. Members have received the details of this course through our announcements. Attendees can expect a very rewarding experience. As stated in our second announcement, the MOM has awarded 7 SDU’s for this course. At the time of writing we are expecting a full house. Members and others who are hesitating about signing on may still do so because we are planning a second course for those who cannot be accommodated in the first one.

Members may offer their work sites for plant visits. On April 20 a group of members visited Glaxo Smith Kline (GSK) at Pioneer Sector 1. Mr Alan Loh, EHS Director for GSK and an SLP member, was our very hospitable and knowledgeable host. See the article by Michael Yan for more details.

What about our executive committee and sub-committees? There is no need to say too much about the executive committee except to say that it manages the affairs of SLP. The sub-committees should receive more attention than they do. We have the following sub-committees:

a) Technical  
b) Education and Training  
c) Conference  
d) Publication, and  
e) Social

We invite members to volunteer to serve on these sub-committees. We guarantee that members will find the experience very rewarding. The time commitment is not much because we can do much of the business via e-mail.

Finally, members know that SLP members not only work, they also know how to play. Jacob Soh and his Social sub-committee put on their super party on April 16. If you missed it, you can enjoy it vicariously by reading Jacob’s article and be consoled by the thought that there will be a better party next year.