



SLP SOCIETY of LOSS PREVENTION *news*

In the Oil, Chemical & Process Industries (Singapore)

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BUILDING SITING :

A Fresh Look

Kenneth Harrington, Senior Process Safety Adviser, Chevron Phillips Chemicals (CPCChem) Company in Texas presented a talk on "Building Siting - A Fresh Look" to more than 40 SLP members and guests on September 27, 2006 at The Chevrons



What can happen when things go wrong

Ken cited the unfortunate accident at BP's Texas City refinery on March 23, 2005 that resulted in 15 fatalities and 170 injuries. This was a watershed process safety event. It triggered the reassessment of safety norms on many different fronts. One of the most obvious reassessments is the placement of trailers and the entire subject of building siting.

In his presentation, Ken discussed the immediate, current, and future activities related to building siting in the chemical process industry. Ken also discussed Chevron Phillips Chemical's proactive approach to building siting assessments worldwide.

He outlined the following key recommendations made by the US Chemical Safety Board (CSB) based on their investigation of BP's Texas City accident:

• **Key elements of CSB investigation**

- Placement of portable buildings
- Abnormal startups
- Blowdown stacks
- Vehicles in the plant
- Operator training & supervision
- BP safety management systems and safety culture

• **CSB Recommendations to industry**

- Urgent
 - API to give new guidance on placement of trailers and similar structures
 - API/NPRA to notify members on the placement of trailers away from hazardous areas
- Alert
 - vehicles in the plant

The full investigation report is available at the Chemical Safety Board (CSB) website: <http://www.csb.gov>



*1st picture from the left:
A section of the audience listening intently -- not missing a beat*

*2nd picture from the left:
Another view of the audience -- listening just as intently*

*1st picture from the right:
Ken Harrington in full swing of his presentation*

*2nd picture from the right:
See Hee thanking Ken for a job well done*



Ken also discussed and shared Chevron Phillips's building siting requirements for their chemical process plants. He highlighted the following key points:

Existing facilities:

- Portable buildings should be relocated at least 400 feet away from hazards unless they are designed and rated for:
 - Explosion – 1 psi (except for windows – 0.5 psi)
 - Fire – 8,000 BTU/hr-ft²
- All permanent buildings regardless of occupancy need to be analyzed per API RP 752 using risk based assessments.
- Portable buildings should not be used for shelter-in-place for toxic releases.
- All vents (non-manually activated pathway from the process to the atmosphere) need to be identified, analyzed, and mitigated if necessary using API RP 521 for guidance on analyzing vents hazards.
- Each plant needs to develop programs to manage changes that affect building siting decisions, control of ignition sources, including a review of vehicle policies, control of personnel during startup and shutdown of units.

New facilities:

- New buildings should be located using minimum separation distances stipulated in the company's (Chevron's) engineering standards
- New control buildings should preferably be built as close to the process as possible and to the hazards at the building location associated with the maximum credible incident.
- Blast modeling to be included in early project planning to help assess the plot plan layout and optimize facility spacing.

The evening talk was very interesting and informative. Our President, Ong See Hee ended the proceedings by thanking Kenneth Harrington for his efforts and support for SLP and presented him with an SLP memento.

By Tay Cheng Pheng