SLP Society of Loss Prevention Update
In the Process Industries
DEC 2009

Group picture of the SLP visitors before the commencement of the plant tour

Yokogawa Engineering Asia Pte Ltd shows its prowess

The October 14, 2009, visit to Yokogawa Engineering Asia Pte Ltd (YEA) at Bedok is the second to an electronic manufacturing facility. The first was to Chartered Semiconductor Manufacturing in August 2008. These two companies represent the two ends of the semiconductor industry -- Chartered is the maker of the chips and Yokogawa is the user of such chips. Both are manufacturing companies and they both employ advanced manufacturing technologies eg. JIT automation and so on. For those of us in the heavy petro-chemical industry, these companies are a world apart. Even for people in the pharmaceutical industry, who maintain stringent standards of housekeeping, the standard of cleanliness required for these electronic plants is breathtaking.

YEA was first established in Singapore in 1974 and has expanded manifold since then. At present it is in the Industrial Automation and Control, and the Sales, Engineering and Servicing businesses. It is also the Regional Headquarters for Yokogawa. At the Bedok site, it houses the Yokogawa Engineering Centre. This is the first such centre outside Japan for Yokogawa. The Singapore plant is the global manufacturing centre for Distributed Control Systems (DCS) for the company. This is a source of pride for YEA.

SLP visitors were immediately impressed by the discipline of the operation. Apart from the usual security checks at the gate, visitors were instructed to use the official walk path to enter the building. Safety was stressed everywhere. Safety signs were prominently displayed and were complied with. Visual information was widely used to convey quality and safety messages. The culture is well embedded. Safety and quality performance are exemplary. For instance, there has not been a quality issue for many years. They live the ZERO DEFECT life.

Many favorable observations were made during the plant tour. The work area was well lit. Workflow was such that each component was automatically delivered to a work station just in time – not sooner and not later. This JIT discipline led to several advantages – planning was precise, work in progress was minimized and there was no clutter. Warehousing of components was also minimized

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Editorial

Readers will note that we have changed the title of our newsletter to Update. Our Executive Committee decided on this change at its recent meeting because it wanted to make the publication more current ie. to report on events in a more timely manner and to publish it more frequently. This is the first issue in this new format. One obvious improvement for future issues is to be more prompt !

The President's Message will not appear with each issue. Instead, he will write when he has some news or messages that he feels are significant enough to be shared with our members eg. our corporate plan or about our Annual General Meeting.

Our first event in 2010 is a re-run of our successful course for HazOps for Leaders. It is to be held on January 27 and 28 at the Singapore Polytechnic Graduates Guild. The course leader is John Lockwood, an Honorary Fellow of SLP and a w ell-known consultant in Process Safety.

To All our Members and Friends,
a Happy Safe and Successful Holiday Season and 2010.

Tay Cheng Pheng, our VP, presenting a memento to Lim Boon Choon, VP of Yokogawa Engineering Asia Pte Ltd

CP Lim of Yokogawa talking about Technology Enablers for Improving Plant Safety

A typical work area in the plant - neat and well lit

with consequential lowering of working capital. Workers were productive and unhurried. Quality checks were performed by each worker at the end of his/her stage of the operation. Each worker was a quality control inspector. No defective sub-assembly or part was allowed to pass to the next stage. It is no wonder that YEA can achieve ZERO DEFECT. This is no slogan. As is reported in many quality textbooks, when everyone is a QC inspector, there is little need for a QC department. QC people can concentrate on continuous improvement. A product eg. an electronic measuring instrument would only be scheduled for production when an order had been received. Because of this high degree of integration, finished product inventory was also low and delivery schedules were short.

Elimination of waste was an overriding principle -- time, resources, space and movement. Engineers would immediately react to an alarm eg. a QC problem, along the production line to quickly clear it and reduce work stoppage. If this cannot be achieved within 2 hours, it is taken off line for deeper investigation.

The YEA plant is relatively low risk in that there are no toxic chemicals that are used in the process unlike a chip wafer plant. It does use hydrocarbon solvents for cleaning components.

The technical capabilities of YEA to design, build and service sophisticated control systems were presented to SLP visitors at the end of the tour. Of particular interest was a system to manage alarms. This issue is of importance to all chemical plants with automatic controls.

YEA was an excellent host. SLP members enjoyed a buffet dinner at its rooftop garden and took in the nighttime views of eastern Singapore including the Eastern Anchorage. It was a relaxing time for hosts and visitors and everyone took advantage of the opportunities for networking. Many SLP members are Yokogawa customers. Our VP Tay Cheng Pheng thanked YEA for its hospitality and presented a memento to YEA's VP Lim Boon Choon to mark a very educational and enjoyable occasion.

By Ngiam Bo Han

"How to develop PSM Metrics and the new ANSI Standard on Metrics."

Kenneth H. Harrington, Manager, PSM Technology of Chevron Phillips Chemical Company LP, Houston, Texas

We are pleased to present you the slides from Ken Harrington's talk on Process Safety at a Best Practice Sharing Session on Oct 13, 2009. The event was jointly organized by SLP and SCIC.

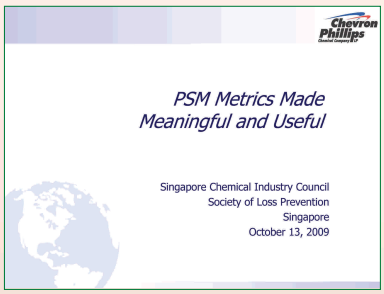
An essential element of any improvement program is the measure of existing and future performance. Therefore, to continuously improve upon process safety performance, it is essential that companies in the chemical and petroleum industries implement effective process safety metrics. Metrics serve to indicate the state of health of important aspects of the process safety management system. Thus many companies use these metrics to measure and track the effectiveness of their PSM efforts to prevent process safety incidents.

The subjects covered in the slides are:

1. **Lagging** process safety metrics
2. **Leading** process safety metrics
3. Metrics on Process Safety Near-misses

Information on the new ANSI Standard on Metrics is also provided.

For more information, go to the attached presentation.



URL: http://www.slp.org.sg/nl/0912/PSM_metrics.pdf

Tay Cheng Pheng, our VP meeting his colleague Ken Harrington

Jacob Soh, our Hon Treasurer, meeting Ken Harrington like old friends

The audience are all ears for Ken's insights on the correct metrics to use

Revised SS 506 Parts 1 and 2

Readers will be pleased to note that SPRING Singapore has recently revised SS 506, Parts 1 and 2. This revision was done by an Industry-led Occupational Safety and Health Management Technical Committee.

The pertinent points about the revision are shown below.

SS 506 : Part 1 : 2009

Occupational Safety and Health (OSH) Management System - Requirements

With this revision, SS 506 : Part 1 : 2004 is now aligned with the new edition of OHSAS 18001 : 2007. Part 1 specifies the requirements for an OSH management system that enables an organization to control its OSH risks and improve its OSH performance. The changes have made SS 506, Part 1 more in alignment with ISO 14001 : 2004 and ISO 9001 : 2000. New and revised definitions have also been included to improve the clarity of the OSH management system.

SS 506 : Part 2 : 2009

Occupational Safety and Health (OSH) Management System - Guidelines for the implementation of SS 506 : Part 1 : 2009.

This revision of SS 506 : Part 2 : 2004 makes it more in alignment with the new OHSAS 18002 : 2008. It provides advice on the application of SS 506: Part 1: 2009 and explains the underlying principles. It also describes the intent, typical inputs, processes and typical outputs for each requirement of SS 506: Part 1. This will aid in its understanding and implementation.

By Jacob Soh
(Note: He is a member of the Technical Committee.)

WE WANT TO HEAR FROM YOU

The SLP Update is circulated among members and other like-minded organizations.
We are always seeking to improve the quality of this publication.

We welcome contributions of interesting news that cover loss prevention in the oil, chemical and process industries.

Please send your contribution or any queries to:

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