HALF DAY WORKSHOP ON "HOW TO ASSESS INHERENT OCCUPATIONAL HEALTH IN CHEMICAL PROCESS PLANT"

By Professor Ir Dr Dominic C. Y. Foo

In current industrial practise, safety, health, and environmental (SHE) assessment is regarded as a necessity in any chemical process design. Following the concept of inherent safety, hazards that might arise in a process should be identified at early stage, preferably when the plant is still at its conceptual design stage. The underlying principle of this approach is that, in order to avoid accidents or hazardous events, the plant is to be designed inherently safer, healthier, and environmentally friendlier, rather than installing add-on systems to control hazards. In response to the above need, a half-day workshop was organised by the Chemical Engineering Technical Division (CETD) entitled "How to Assess Inherent Occupational Health in Chemical Process Plant" on 23rd July 2011 at C&S Lecture Room, 2nd Floor of Wisma IEM. The talk was delivered by Dr. Mimi Haryani Hassim of Universiti Teknologi Malaysia (UTM). Fourteen (14) participants attended the workshop.

The workshop started at 9 am, following the introduction of the speaker by the chair person Professor Ir Dr Dominic Foo. There were 4 individual sessions in the workshop. In Session 1, Dr Mimi introduced the inherent occupational health concept, followed by explanation on health hazards assessment at the research and development (R&D) and pre-design stages. At these stages, the assessment needs to be simple as not much process data is readily available at this stage, besides having to screen quite a number of alternatives to get the desired process. Session 1 ended at 10.30 am, where refreshment is served.

In Session 2, the speaker talked about health hazards assessment at the basic engineering stage. The assessment becomes more comprehensive with the availability of more information including piping details. Next, chemical exposure risk estimation and characterization were described in Session 3. Different sources of workers exposure in chemical plants were discussed and quantitative approach to characterize health risk due to chemical exposures was shown in detail. Several in class examples were given to the participants to familiarise with the calculation model. Finally, counter-measures design for hazards reduction/elimination were explained in Session 4 based on inherent safety principles.

The workshop ended at 1 pm. On behalf of Chemical Engineering Technical Division, Professor Ir Dr Dominic C. Y. Foo presented a token of appreciation to the workshop tutor Dr Mimi Haryani and thanked her for the very useful workshop.