

INTRODUCTION TO RISK ASSESSMENT & MANAGEMENT & PHA 12:30 pm

Dr. Stewart Behie, Occidental Petroleum

The distinction between process hazards and risk will be addressed, as well as techniques commonly used in the oil & gas industry for assessing them. To improve one must measure safety performance and take steps to improve such areas as human error, change management and risk management strategies. Key elements of an effective and robust risk management program will be noted, including the importance of applying them at all stages of project development, design and operation. Process hazards analysis techniques, management of change and pre-startup safety reviews will be addressed, including case studies.

USING CALORIMETRY TO UNDERSTAND REACTIVE CHEMICAL HAZARDS 2:15 pm

Dr. Steven Horsch, Fellow, Dow Chemical

Chemical companies build plants and labs to manufacture products at many different scales as well as develop new products. In order to perform chemical reactions safely, at any scale, the amount of energy that is stored in the chemical system, the conditions under which that energy can be released and the rate of release must be well understood. In many cases, the thermodynamic and kinetic information is not readily available and must be obtained experimentally. The data collected must adequately represent the situation being studied and this requires that the measurement science expert be fully versed in the process or experiments being studied. This lecture will focus on the use of ARC, VSP, TSu, DSC and microcalorimetry to collect thermodynamic and kinetic data and apply it to a process.

CCPS RISK ANALYSIS SCREENING TOOL (RAST) 4:00 pm

Dr. Bruce Vaughn, CCPS

RAST is a Hazards Identification and Risk Analysis (HIRA) tool for effectively understanding and managing process safety risks. It was donated by Dow, modified by CCPS for general use, and is available on their web site. The RAST software uses the HIRA approach to help Process Hazards Analysis (PHA) teams evaluate their process safety risks. RAST can be applied to both new and existing processes, including modifications. It is designed to provide both a qualitative and a semi-quantitative risk analysis for hazardous processes based upon the chemicals, reactivity data, equipment type, operating conditions, and facility layout. RAST uses well-established dispersion models for evaluating the characteristics of leaks and for catastrophic releases of hazardous materials. The potential toxic, fire, or explosion impact can be determined using a vulnerability assessment. This tutorial will provide an overview of the RAST software, present a case study using the HIRA approach, and describe both the advantages and limitations for the risk analysis results.

Followed by 6:00 pm Poster Session and 7:00 pm Dinner in STEW 218

To learn more about the Fall 2019 P2SAC Conference on December 4 & 5, contact:

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