

AIChE Spring Meeting 2006

8th Process Plant Safety
Symposium
2006

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8th Process Plant Safety Symposium

Session 3 - Global Congress Joint Keynote Session

The Global Congress Keynote session recognizes AIChE's accomplishments in process safety over the past 40 years and sets the stage for the three Global Congress symposia as well as AIChE's future efforts in process safety.

Cochairs: Erdem A. Ural, PhD
James R. Thompson

Chair: Tim Overton
Welcoming Remarks

- 1 Keynote Address, Process Safety in the Global Chemical Industry
Gary Veurink

Part 1

- 2 Keynote Address, Process Safety in the Global Petroleum Industry
John Mogford
- 3 Expanding Role of the Loss Prevention Professional, Past, Present and Future
John Murphy, Dennis Hendershot

Session 32 - Loss Prevention: Past, Present, and Future

An invited paper will introduce the session by highlighting the 40-year history of the Loss Prevention Symposium (LPS) and by addressing how this forum has remained on the forefront of ever-changing process safety and loss prevention technologies and practices. Papers defining the "State-of-the-Art" and illuminating where this "Art" must go in the future are invited. In addition to emphasizing life-safety issues, the LPS emphasizes the business importance of accident prevention. Papers are encouraged that discuss the long-term consequences of industrial accidents, with special emphasis on continued corporate viability and financial health, on corporate loss prevention programs, and on the ever-changing regulatory roadmap.

CoChair: Walter L. Frank

Chair: David G. Clark

- 15 The History of the Loss Prevention Symposia
John A. Davenport
- 26 Looking from the past to the Future - Is Loss Prevention Affected by Globalisation?
Franz Alfert
- 27 10 Years of Progress or Slipping into Complacency
Carolyn W. Merritt
- 28 Evolving a Corporate KPC HSE Management System
Fadhel A. Al-Ali

Session 53 - Improving Safety Culture

A strong Safety Culture is of critical importance to Safety over the long-term in any organization. This session invites papers demonstrating approaches to reducing incidents through management processes such as Operational Discipline, Behavior Sampling, Operator Training, effective operating procedures, interactive task management systems, etc.

CoChair: Dr. Stephanie C. Payne

Chair: Dr. M. Sam Mannan

- 49 Safety Culture in the CCPS Risk-Based Process Safety Model
Walt Frank
- 60 Safety Climate and Decision Making
Dr. Stephanie C. Payne, Dr. Mindy E. Bergman, Jaime B. Henning, Carolyn Stuftt
- 73 Maintaining a Healthy Safety Culture
James W. Bayer
- Break
- 79 Impact of Engineering Ethics on Safety Culture
Charles E. Harris Jr.

Session 106 - Risk Assessment

Risk Assessment is key to evaluating and improving the safety and business risk of process systems. This session invites papers demonstrating the application of both qualitative and quantitative Risk Assessment techniques (such as HAZOP, Layer of Protection (LOPA), Fault Tree, and QRA), as well as Risk Screening Techniques.

CoChair: Pen Lewis

Chair: Albert I. Ness

- 80 Do You Know Your Engineered Systems?
Kumar Bhimavarapu, William Doerr
- 92 What Risk Should Public Accept from Lng Facilities?
Stephan J. Shaw, Ernst Meyer
- 101 Frequency and Consequence Modeling of Rare Events Using Accidents D
Anjana Meel, Lauren M. O'Neill, Warren D. Seider, Ulku Oktem, Nir Keren
- Break
- 120 Utility Failures - Are You Prepared?
Katherine E. Pearson
- 133 A Three Level Approach for the Assessment of Domino Effect
Ernesto Salzano, Valerio Cozzani
- 147 Dust Explosion Consequence Categories for Semi-Quantitative Risk Assessmen
David F. Tarverdi, Colin S. Howat

Session 127 - Facility Siting Issues

Facility Siting remains important to Process Safety, and has many aspects. This session invites papers on novel approaches and applications to Facility Siting, and on important ancillary issues such as: controlling the location of temporary buildings/trailers, controlling access of non-essential personnel to process areas during startup/shutdown/emergency operations, and best practices for Fire Protection systems (testing/maintenance/reliability).

CoChair: Michael Livingston

Chair: Jack Chosnek

- 148 Facility Siting and the Bp Texas City Incident, What It Means for Our Industry
P. C. (Pat) Berwanger
- 157 Lessons Learned through Osha's Enforcement of the Facility Siting Provisions in the Psm Standard
Mark S. Dreux
- 158 Facility Siting Following a Merger of Two Large Oil Companies
Gregg A. Sapp, John A. Alderman
Break
- 159 Techniques for Siting New Buildings in Petrochemical Facilities
Donald E. Ketchum, Martin L. Goodrich, John N. Dyer, J. Kelly Thomas
- 174 Infrastructure Impacts during Hurricanes Katrina and Rita and Facility Siting Issues
David A. Moore
- 187 Facility Siting Database and Analysis
Randy Nyman, Alex M. See, James M. Hudson, Jon D. Chrostowski

Session 190 - Safety Instrumented Systems and Safety Critical Devices

The proper application of Safety Instrumented Systems (SIS) is obviously important for process plants. However, non-SIS Safety Critical Systems (e.g., Safety Critical Devices) also play an important role. This session invites papers in the areas of:· Safety Instrumented Systems - SIS design, SIL level determination, identification of IPLs, probability calculations, application of LOPA to SIS, etc.· Safety Critical Devices (SCDs) - Examples, opportunities to apply SCDs instead of SIS, management of SCDs, application of LOPA to SCDs, etc.

CoChair: Angela Summers

Chair: Harry West

- 211 Risk Abatement Provided by Safety Instrumented Systems May Cause Remote Hazards with Higher Risks
Adrian Sepeda
- 222 Failure Conundrum
Michela Gentile, Angela Summers

- 234 Using Layer of Protection Analysis to Define Safety Integrity Level Requirements
Randy Freeman
Break
- 235 Use of Layer of Protection Analysis (Lopa) to Determine Protective System Requirements
W. Kent Goddard
- 246 Asset Protection, Applying Safety Life Cycle Methods
William H. Johnson, Richard R. Dunn, Stanley A. Urbanik, Victor J. Maggioli
- 257 Panel Discussion - Safety Instrumented Systems and Safety Critical Devices
Harry West

Session 213 - Case Histories and Lessons Learned

Reviews of Process Safety Incidents and near misses provide valuable learning opportunities. Papers dealing with incidents, near misses and the lessons learned are requested.

CoChair: Robert P. Benedetti

Chair: John F. Murphy

- 258 A Case Study of a TFE Explosion in a PTFE Manufacturing Facility
Erik Christiansen, Ali Reza
 - 271 Flammable Liquid Process Tank Fire
James R. Reppermund
 - 278 Fired Heater Damage Following Outage Due to Management of Change Problems
Donald K. Lorenzo, **Randal L. Montgomery**, Lee N. Vanden Heuvel
- Break

Session 215 - Control and Optimization in Refining I

This session offers an opportunity to hear about process control success stories within the refining and petrochemical industry. The preferred subject matter includes innovative solutions to process control issues along with the benefits of optimization programs. If you have a process control application that would be interesting for others to learn about, please submit an abstract for approval.

CoChair: James Harris

Chair: Tim Olsen

- 286 Apriori Alarm Management during Project Feed Stage Using the Results from the Hazop
E. Michael Stafford, **Harry West**
- 287 User Approval of Safety Instrumented System Devices
Angela Summers

- 295 Advances in Abnormal Situation Prevention in Refineries and Petrochemical Plants
Ahmad A. Hamad, **Ravi Kant**
- 306 Strategic Proof Testing
Dr. William M. Goble
- 311 Fired Heater Safeguarding Survey
Edward M. Marszal

Session 230 - Joint Case Histories and Lessons Learned

Joint Case Histories and Lessons Learned

- 325 Bp Texas City: March 23rd 2005
Don Holmsrom, Mark Kaszniak
 - 336 Bp Amoco Texas City Incident
Michael P. Broadribb
 - 356 The Accident in Bhopal: Observations 20 Years Later
Ronald J. Willey, Dennis Hendershot, Scott Berger
- Concluding Remarks