

PROFESSIONAL ACTIVITIES OF:

ROY E. SANDERS, P.E.
Chemical Process Safety Consultant

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General

Roy E. Sanders, P.E. - Chemical Engineer – is currently a freelance process safety lecturer and, as of October 2009, is a part-time Research Associate of Texas A&M's Mary Kay O'Connor Process Safety Center. Roy retired in March 2008 as a Compliance Team Leader for the Chlor/Alkali Production facilities from PPG Industries, Lake Charles, Louisiana, after 43 years of service. The PPG facility is very large with \$1.5 billion in assets and located on 1,300 acres and had between 1,500 and 2,000 employees (depending on the year). Sanders experiences were in the safe manufacturing and handling of chlorine, hydrogen, sodium hydroxide, sodium chlorate, muriatic acid, sulphuric acid, vinyl chloride, ethyl chloride, trichloroethylene, perchlorethylene and other hazardous chemicals.

After graduating from Louisiana State University in 1965 with a BS in Chemical Engineering he immediately accepted a position with PPG Industries. He held various operations and technical positions at PPG involving chlor/alkali and chlorinated hydrocarbons. Roy has specialized in Process Safety since 1974. Notably, he was Superintendent of Loss Prevention at PPG for 16 years from 1982 to 1998. .

Roy Sanders has been the principal author of about two dozen practical articles published on chemical process safety that offer a within-the-fence look at that activity from an operations, maintenance and engineering standpoint. The third edition of his book, ***Chemical Process Safety: Learning from Case Histories***, was released in 2005 and remains popular. It was translated into the Korean language. A fourth edition is under development and is scheduled for release in late 2015.

Mr. Sanders has served as Chairman of PPG Lake Charles's Emergency Response Planning Committee and Chairman of the Technical Safety Review Board. He was responsible for process hazards analyses and has investigated numerous process accidents. He was also responsible for the vessel and pipeline inspection program. Roy gained an excellent insight to day-to-day chemical processing operations when he served as an outside chemical process operator in a chlorine manufacturing plant during a 3 ½ month labor dispute in the summer of 2006.

Roy Sanders is the father of three adult daughters and the proud grandfather of three smart young girls and one grandson. Roy's hobbies include photography, gardening, traveling, fishing and alligator hunting.

Roy may be reached at (337) 477 – 9243 or via e-mail at: Sanders.Roy@Suddenlink.net

Lecturer / Instructional Activities

Mr. Sanders is a regular lecturer on Chemical Process Safety topics throughout North America and taught short courses in Bahrain, Canada, Holland, India, Saudi Arabia and Taiwan. His interactive process safety awareness course entitled "What Went Wrong?" has received excellent reviews round the world. He is a frequent contributor of papers to the American Institute of Chemical Engineers, AIChE, Loss Prevention Symposia and the Mary Kay O'Connor Process Safety Symposia. In both 1996 & 1997, he taught a graduate-level engineering course entitled "Chemical Process Safety" at McNeese State University.

Roy Sanders serves on the editorial board of the AIChE's *Process Safety Progress* and on the editorial board of Puttman's *Chemical Processing* magazine. Roy is also a founding member and contributor to the monthly *Beacon* publication. The *Beacon* is a product of the AIChE's Center of Chemical Process Safety. He assists with programming half day seminars of the Lake Area Industries - McNeese Engineering Partnership presenting OSHA Process Safety Programs to local industry. He has assisted this McNeese organization since the early 1990's. He has served on the National AIChE's Loss Prevention Symposium Committee since 1979 and is now an Emeritus Member.

Mr. Sanders provides input to graduate students via lectures and directly via discussions of their projects at the Mary Kay O'Connor Process Safety Center. In November 2011, Roy was presented the 2011 "Harry H. West Memorial Service Award" of the Mary Kay O'Connor Process Safety Center at Texas A&M University. In June 2014, he received "2013 Safety Leadership Award" presented by the Southwest Louisiana Construction Users Council for "Exemplary Leadership in the area of Safety and Health for Southwest Louisiana Contractors."

Roy has participated as an instructor on a recurring basis for a two-day course sponsored by the AIChE's Continuing Education Dept. The course, ***Chemical Plant Accidents: A Workshop of Causes and Prevention***, was offered between 1984 and 1992. In 1993, Roy drafted a script and produced a 12-minute video entitled ***Failures in Management of Changes***. He is a Registered Professional Chemical Engineer and Environmental Engineer in Louisiana. Roy was nominated as a "Fellow" within the AIChE and elected as a Director of the Safety & Health Division of the AIChE for 1997-1999

Publications

Roy Sanders has published about two dozen publications in the past three decades, including:

- ◇ *Keep a Sense of Vulnerability: for Safety's Sake*, Process Safety Progress, June 2013, Vol 32, No.2 AIChE
- ◇ *Tanks A Lot – Trevor: For Enduring Process Safety Contributions* - Journal of Loss Prevention in the Process Industries – Sept 2012
- ◇ *Treat Tanks with Care*, Putman Media's Chemical Processing, November 2010.
- ◇ *Using Layers of Protection Analysis: The Do's and the Views*, co-authored with Dr. Adam Markowski & Dr. M. Sam Mannan, Proceedings of the Mary Kay O'Connor Process Safety Center – Making Safety Second Nature Symposium – October 2010.
- ◇ *Tanks A Lot: A Look at the Frail Nature of Tanks*, Proceedings of the Mary Kay O'Connor Process Safety Center – Making Safety Second Nature Symposium – October 2008.
- ◇ *Hurricane Rita: An Unwelcome Visitor to PPG Industries in Lake Charles, Louisiana*, Mary Kay O'Connor Process Safety Center– Journal of Hazardous Materials, Elsevier 2007.

- ◇ *Deflated – Victims of Vacuum*, Journal of Hazardous Materials, Elsevier 2006.
- ◇ **Chemical Process Safety: Learning from Case Histories**, 3rd Ed., - a 327 page book. Boston: Elsevier, Butterworth-Heinemann, 2005.
- ◇ *Practicing Chemical Process Safety: A Look at the Layers of Protection*, Journal of Hazardous Materials, July 2004.
- ◇ *Designs that Lacked Inherent Safety: Case Histories*, Journal of Hazardous Materials, 2003.
- ◇ *Picture This! Incidents that Could Happen in Your Plant*, Process Safety Progress, AIChE, June 2002.
- ◇ **Chemical Process Safety: Learning from Case Histories**, - a 289 page book. Boston: Butterworth Heinemann, Ltd. 1999
- ◇ *Chemical Process Safety: Learning from Case Histories*, - a technical paper - , Mary Kay O'Connor Process Safety Center – Making Safety Second Nature – 1999 Symposium Proceedings, October 1999.
- ◇ *A View of What We Do – Making Process Safety Second Nature.* , Mary Kay O'Connor Process Safety Center Symposium published on website March 1998.
- ◇ *Monday Morning Quarterbacking: Applying PSM Methods to Case Histories of Yesteryear*, co-authored with Wayne L. Spier, Process Safety Progress, **(PSP)** AIChE, Winter 1996
- ◇ *Human Factors: Case Histories of Improperly Managed Changes in Chemical Plants (PSP)* Fall 1996.
- ◇ **Management of Change in Chemical Plants: Learning from Case Histories**, - a 170 page book. Oxford, UK - Butterworth Heinemann, Ltd., 1993.
- ◇ *Victims of Vacuum*, Chemical Engineering Progress, **(CEP)**, AIChE, September 1993.
- ◇ *Small, Quick Changes Can Create Bad Memories*, **CEP**, AIChE, May 1992
- ◇ *Don't Leave Plant Safety to Chance*, with J. H. Wood, Chemical Engineering magazine, February 1991.
- ◇ *Stop Tank Abuse*, co-authored with D. L. Haines & J. H. Wood, Plant/Operations Progress, January 1990.
- ◇ *Dynamic Testing and Maintenance of Safety Relief Valves*, co-authored with W. H. Woolfolk, Chemical Engineering magazine, October 1987.
- ◇ *Process Safety Valve Testing*, co-authored w/ W.H. Woolfolk published in **CEP**, November 1984.
- ◇ *Plant Modifications-Troubles and Treatment*, published in Chemical Engineering Progress, **CEP**, February 1983.