

## William H. Doyle Award

The William H. Doyle Award is presented by the Loss Prevention Symposium Committee to the presenter of the best paper given at each symposium. The committee considers technical content and effectiveness of presentation. The criteria are that the paper:

- Must be clear and well presented and the audio-visual aids must be excellent.
- Should have wide applicability to loss prevention efforts in the chemical industry.
- Adds substantial knowledge to the field of Loss Prevention.
- Engages and stimulates the intellect of the audience.
- Would cause BILL DOYLE to rise to his feet, ask a penetrating question, make decisive comments, and then lead the applause.

The WILLIAM H. DOYLE AWARD winner for 2008 is **Lisa Long** (currently with the US Department of Labor) for the paper “**Vinyl Chloride Monomer Explosion**” presented in the *Case Histories and Lessons Learned* session of the 41<sup>st</sup> Loss Prevention Symposium in Houston, TX, in April, 2007. The abstract of the paper follows:

### Vinyl Chloride Monomer Explosion

Lisa A.Long (Speaker)  
James Lay, PE  
Katherine Leskin  
Randy McClure, CSP  
Allen Smith

U.S. Chemical Safety and Hazard Investigation Board (CSB)  
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#### ABSTRACT

On April 23, 2004 an explosion and fire at the Formosa Plastics Corporation, Illiopolis, Illinois (Formosa-IL) polyvinyl chloride (PVC) manufacturing facility killed five workers and severely injured three workers. The explosion and fire destroyed most of the reactor facility and adjacent warehouse and ignited PVC resins stored in the warehouse. The plume of smoke from the smoldering fire drifted over the community and resulted in an evacuation that lasted 48 hours. The facility has been closed down since the incident and no actions to rebuild have been taken.

Vinyl chloride (VCM), a highly flammable chemical and known carcinogen, and the major component in the facility’s manufacturing process, was the primary fuel for the initial fire and explosion. Formosa-IL used VCM to manufacture a variety of PVC resins in twenty-four heated and pressurized reactors, Formosa-IL, a wholly owned subsidiary of Formosa plastics Corporation, USA (FPC USA), purchased the Illiopolis facility from Borden Chemical and operated it for approximately two years before the incident. This paper includes a discussion of the incident’s root and contributing causes and includes the CSB recommendations to prevent recurrence.

*Previous Winners of the William H. Doyle Award*

1985	<b>James McQuaid</b>	Trials in Dispersion of Heavy Gas Clouds
1986	<b>Trevor A. Kletz</b>	Inherently Safer Plants
1987	<b>Laurence G. Britton</b>	Thermal Stability of Ethylene at Elevated Pressures
	<b>Ian Swift</b>	The Performance of Low Pressure Vents
1988	<b>Robert A. Mancini</b>	The Use (and Misuse) of Bonding for Control of Static Ignition
1989	<b>Dean K. Wilson</b>	Failure Mode Management: A Loss Prevention Philosophy for Programmable Logic Controllers
1990	<b>Laurence G. Britton</b>	Combustion Hazards of Silane and Monosilicon Chlorides
1991	<b>Daniel A. Crowl</b>	Using Thermodynamic Availability to Determine the Energy of Explosions
1992	<b>A. M. Dowell</b>	Flashback from Waste Gas Incinerators into Air Supply Piping
1993	<b>J. E. S. Venart</b>	To BLEVE or not to BLEVE: Anatomy of a Boiling Liquid Expanding Vapor Explosion
1994	<b>Norman E. Scheffler</b>	Vapor Suppression of Chemicals Using Foam
1995	<b>T.C. Hofelich</b>	Compatibility Determination Procedures to Comply with Legislation HM-183
1996	<b>Ronald G. Eierman</b>	Improving Inherent Safety with Seal-less Pumps
1997	<b>Franco Tamanini</b>	Modeling of Panel Inertia Effects in Vented Dust Explosions
1998	<b>Norbert Jaeger</b>	Determination, Prevention, and Mitigation of Potential Hazards Due to the Handling of Powders during Transportation, Charging, Discharging and Storage
1999	<b>Dennis C. Hendershot</b>	Peroxide Drum Explosion and Fire
2000	<b>Peggy Westfall-Lake</b>	Human Factors: Preventing Catastrophic Human Error in 24-Hour Operations
	<b>Chad V. Mashuga &amp; Daniel A. Crowl</b>	Flammability Zone Prediction Using Calculated Adiabatic Flame Temperatures
2001	<b>Angela E. Summers</b>	Using Instrumented Systems for Overpressure Protection
	<b>Peter N. Lodal</b>	Case History: Steam Line Rupture at Tennessee Eastman Division 11/03/98
2002	<b>Robert W. Johnson &amp; Thomas L. Oakey</b>	Combustion Safeguards Test Intervals – Risk Study and Industry Survey
2003	<b>Dennis C. Hendershot</b>	Connections: How a Pipe Failure Resulted in Resizing Vessel Emergency Relief Systems
2004	<b>Erdem A. Ural</b>	Airplane Fuel Tank Explosions
2005	<b>Peter N. Lodal</b>	Distant Replay: What Can Reinvestigation of A 40-Year Old Incident Tell You?
2006	<b>Erdem A. Ural</b>	Dust Explosion Venting Through Ducts
2007	<b>Ronald J. Willey</b>	The Accident at Bhopal: Observations 20 Years Later

## **Norton H. Walton/Russell L. Miller Award**

The Norton H. Walton/Russell L. Miller Award is given by the Safety and Health Division of AIChE in recognition of outstanding chemical engineering contributions and achievements in the Loss Prevention, Safety, and Health fields.

The following rules govern the granting of this award:

- It shall be awarded at the discretion of the Division's Executive Committee but not more frequently than once each calendar year.
- It shall be awarded to a member of the Institute. There is no age limit. The award shall be for outstanding contributions and achievements to promote Safety, Loss Prevention and Health in chemical engineering activities.
- Nominations are to be submitted by members of the Division to the Chairman of the Division by December 31st of each year.
- The award will consist of an appropriate framed certificate and will be presented at a Division event.

The Safety and Health Division of AIChE is proud to announce that the 2008 Norton H. Walton/Russell L. Miller Award recipient is:

### ***John F. Murphy***

Mr. Murphy received his Bachelors Degree in Chemical Engineering from Tufts University and an MBA degree in Management from Central Michigan University. Mr. Murphy spent most of his working career at the Dow Chemical Company, where he rose from a senior production engineer through several successively more responsible positions to that of Senior Process Safety Associate. After retirement from Dow, he held positions at RMT, Inc., and Wilfred Baker Engineering, Inc., specializing in process safety and risk assessment. He then took a position as Chemical Incident Investigator at the U. S. Chemical Safety and Hazard Investigation Board. He has since retired and is now an independent process safety consultant.

Mr. Murphy serves as a staff consultant to the Center for Chemical Process Safety, where he previously was a member of several CCPS subcommittees. He is a member of the Editorial Board of *Process Safety Progress* and a member of the AIChE Safety and Health Division Executive Committee, where he has held positions of Director, Vice-Chair, and Chair, from 1998 to 2001. He is an active member of the AIChE Area 11A Loss Prevention Symposium Programming Committee, having been Session Chair or Co-Chair numerous times, as well as 2003 Symposium Chair and Chair of the Committee in 2005.

Mr. Murphy has also been a member of the National Fire Protection Association's Flammable and Combustible Liquids Code Committee and is a member of the Reactivity management Roundtable. He is also the author or co-author of a number of papers, including several published through AIChE presented at the AIChE Loss Prevention Symposium.

The Safety and Health Division and the entire engineering community recognizes and appreciates Mr. Murphy's outstanding contributions to chemical process safety and his dedication to our profession.

*Previous Winners of the Norton H. Walton/Russell L. Miller Award*

1987	<b>Walter B. Howard</b>
1988	<b>Eugene S. DeHaven</b>
1990	<b>Stanley S. Grossel</b>
1991	<b>William J. Bradford</b>
1993	<b>T. A. Ventrone</b>
1994	<b>Gui LeGendre</b>
1998	<b>Robert Ormsby</b>
1999	<b>Richard F. Schwab</b>
2000	<b>John A. Davenport</b>
2001	<b>Dr. Joseph F. Louvar</b>
2002	<b>Dr. Daniel A. Crowl</b>
2003	<b>Dr. Laurence Britton</b>
2004	<b>Henry L. Febo</b>
2005	<b>Gary J. Powers</b>
2006	<b>Dennis C. Hendershot</b>
2007	<b>No Recipient</b>

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Please consider nominating a qualified candidate for 2009. Further information about the award can be found via the Safety and Health Division web site:

<http://www.chem.mtu.edu/org/aiches&h/>