

 *Sponsored by The Dow Chemical Company*

**2013 Sixth International (HRO) Conference\***

*The practical and human side  
of High Reliability Organizing*

Revision 10

**Wednesday, April 10th**



Image from the 2012 HRO Conference.

<b>Time</b>	<b>Session</b>	<b>Presentation/Title</b>	<b>Speaker</b>
8:00-8:30 a.m.	Keynote Address	The practical application of HRO principles in Dow and across multiple sectors	Don Taylor
8:30-9:30 a.m.	Keynote Address	The human side of skills: From surgery to oil drilling post Deepwater Horizon	Rhona Flin
9:30-10:00 a.m.	Keynote discussion		Daved van Stralen, Bert Slagmolen
10:00-10:20 a.m.	Break		
10:20-12:05 a.m.	Abstracts Presentations		
10:20-12:05 a.m.	A. Parallel Panels	7 Panel discussions below to choose from.	

## Wednesday, April 10th

Session		Presentation/Title	Speaker
A		Indirect leadership	Daved van Stralen (m), Tom Mercer, Dan Kleinman
<p>Leadership for an emergency is invisible, having occurred before the event. As a crisis unfolds the on-site leader has less direct leadership than a leader during stable times. The characteristics for indirect leadership will be discussed and how they contribute towards successful performance in uncertainty and threat.</p>			
A		Change and Organization	Dale Marsden (m): Bert Slagmolen, Charles Cowley, Bruce Spurlock, John Werner (abstract)
<p>Organizations change through structure, lines of communication, and changes in the individual. While it is easy to change any one element, change toward HRO involves interactive changes in all elements. When change is imposed it creates resistance, when change is internalized it creates passion and will spontaneously spread throughout an organization. This panel will present methods to win the “hearts and minds” of people while developing common values.</p>			
A		Anyone can join the Nuclear Power Club	Ralph Soule (m), Tony Muschara, Bill Rigot
<p>The High Reliability practices of the nuclear power industry have been transformed from Three – Mile Island to today to produce unparalleled safety and performance improvements. This workshop will provide an introduction to the methods nuclear power continues to use that are well-suited to other industries that place a priority on both safety and performance.</p>			
A		Dow Chemical	Kevin Bauman (m), Paul Dean, Mike Turik, Otto Parets
<p>At Dow, unplanned events can occur anywhere across the value chain and inhibit the Company’s ability to meet customers’ expectations. Focusing reliability efforts only on the issues within production plants misses a significant opportunity. Today, Dow is taking its long-standing history of operational excellence and adapting the concepts into a broader and more holistic focus on reliability. The concept of holistic reliability seems simple to envision, but implementation is a never-ending pursuit, especially in a diverse and large organization such as Dow. Panelists from various groups across Dow (leadership, business, and sites) will describe their engagement approach and provide practical examples that are applicable across industries.</p>			

## Wednesday, April 10th

A		Moving from brittle to reliable: Assessing Brittleness & Designing Practices for HRO	Beth Lay, Matthieu Branlatt, Calpine Corp.
<p>Work systems, as Complex Adaptive Systems, require adaptability in order to be resilient when anomalous situations arise, i.e., maintain sufficient levels of safety and performance in the face of disruptions. Focusing on aspects of adaptability allows us to describe not only how well an organization can respond to adverse events (its adaptive capacity), but also how adaptability issues relate to deficiencies in organizational learning. Understanding sources of brittleness in work organizations and designing practices and mechanisms can help achieve higher reliability. For that purpose, various principles are described from the perspective of Resilience Engineering, a field that largely shares HRO's values, approach and principles.</p>			
A		Analysis of HRO implementation: Metrics, culture, economics	Janice Tolk (m), Jennifer Farris, Kurt McElwain, Mike Bromley, Texas Tech University
<p>For HRO implementation we benefit from specific and measurable outcomes which will demonstrate the quantitative benefit of operating as an HRO and take us beyond theory. This panel presentation will discuss the economics of barriers and controls necessary to control costs including elimination of redundant barriers which can add to complexity of operations without commensurate risk reduction. Decision making improves with sophisticated economic models that focus on value-added cost effectiveness of barriers and controls. This allows decision makers to have a scientific and mathematical basis for analysis of existing operations. and scientific/mathematical based analyses will lend more credibility to HROs.</p>			
A		The Hard Knocks of High Reliability	Pantex: Rick Hartley, Kimbel S. Leffew, Ken Koves, Pantex, INPO
<p>In a learning organization, people continually expand their capacity to create the results they truly desire, nurture new and expansive patterns of thinking, set free collective aspirations, and continually provide an environment for optimal learning. An organizational learning technique, systems thinking, is a discipline for seeing "structures" that underlie complex situations. These systemic structures drive patterns of organizational behavior that sometimes result in consequential events. As such, investigative techniques to see and hopefully understand underlying systemic structures to discern high from low leverage corrective actions will be compared and contrasted between commercial nuclear power with those of nuclear, non-reactor operations from the NNSA.</p>			
12:05-1:05 p.m.	Lunch		
1:05-2:50 p.m.	Abstract Presentations		
1:05-2:50 p.m.	B. Parallel Panels	7 Panel discussions below to choose from.	

## Wednesday, April 10th

Session		Presentation/Title	Speaker
B		Chemical Process Safety	Bill Hoyle (m), Mark Griffon, Rick Lombardi, George Pohle
<p>Petroleum refining and the chemical process industry have quite public failures. This panel will discuss the little known processes adopted to bring these industries toward High Reliability. Review of a few major incidents and their findings as it relates to poor behavior, culture, and lack of HRO principles will set the stage for discussion of safety and reliability, changing the culture, and implementing HRO from sponsorship to engagement to sustainment. HRO approaches can help prevent and improve recovery from future major incidents in the oil and gas industry. We must include in the discussion the risk perception, risk assessment, 'normal' operating conditions, so called 'inexplicable' decisions preceding incidents, flexibility and adaptability of the organizations regarding health, safety and environmental issues, conflicting objectives and incentives, and communications and decision making.</p>			
B		Measuring High Reliability: What can we measure?	Janice Tolk (m), Tony Ciaverelli, Jennifer Faris, Bert Slagmolen
<p>Few metrics exist for identifying the level of performance an organization has toward High Reliability. This panel will present the experience of experts in the use of these metrics.</p>			
B		Before HRO: HRO was operational before researchers codified it	Jim Holbrook (m), Daved van Stralen, Dan Kleinman, Tom Mercer
<p>HRO was initially the codification of the command philosophy of RAdm Mercer however others had through convergent evolution, developed similar philosophies. This panel will present HRO in its native state from the US Navy, wildland fire, EMS, and healthcare</p>			
B		Questioning and Doubt: How do we make it a strength?	Todd Conklin (m), Tony Muschara
<p>Doubt can lead to lack of confidence and unwillingness to engage while overconfidence leads to aggressive interaction with little forethought. Doubt can give the pause necessary for better sensemaking. Questioning attitudes can elaborate the complexity if the situation and enhance deference to expertise.</p>			
B		Culture: How can we make the concept operational?	Bill Rigot (m), Pattie Sokol, Najm Meshkati
<p>HROs seem to have a common operational culture but the word culture is at risk of becoming overused and poorly defined. This panel will discuss how we focus on creating HRO with our eye on culture.</p>			
B		Bringing conflicting goals together after a catastrophic incident	Rick Hartley (m), Bert Slagmolen Ralph Soule
<p>After a catastrophic event it makes sense to use the lessons learned toward change in the organization. This panel will discuss productive ways an organization can change after such an event.</p>			
B		Does HRO give commonality across industries?	Yalda Khashe, Matthieu Branlat
<p>HRO is often described in abstract or within a specific industry. This panel will demonstrate that HRO principles apply across industries in recognizable patterns.</p>			

## Wednesday, April 10th

2:50-3:10 p.m.	Break		
<b>Time</b>	<b>Session</b>	<b>Presentation/Title</b>	<b>Speaker</b>
3:10-4:10 p.m.	Plenary Lecture	The Intersection of High Reliability and Safety Culture: Lessons learned from Three-Mile Island to Deepwater Horizon	Najm Meshkati
4:10-4:40 p.m.	Plenary discussion		

## Thursday, April 11th

Time	Session	Presentation/Title	Speaker
8:15-8:30 a.m.	Announcements		Daved van Stralen
8:30-9:30 a.m.	Plenary Lecture	The Power of Collaboration	Chris Hart
9:30-10:00 a.m.	Plenary discussion		
10:00-10:20 a.m.	Break		
10:20-12:00 p.m.	Abstract Presentations		
10:20-12:00 p.m.	C. Parallel Panels	3 Panel discussions below to choose from. 4 Popular panels from Day 1 can be added as choices as well.	
Session		Presentation/Title	Speaker
C	Dow Corning	Walking the Talk – Implementing HRO Principles in an Industrial Setting	Mike Snyder (m): Jim Whitlock (opening comments), Jim Cross, Russ Kerlin,
Dow Corning will present an overview of its journey towards becoming a Highly Reliable Organization with practical examples from multiple levels of the organization including executive and management levels. Leading indicators of High Reliability and productivity will describe the story of HRO implementation in a practical manner making our story accessible to other organizations.			
C		How can we teach novices to work in complex, high-risk organizations?	Rhona Flin (m), Dan Kleinman, Jim Holbrook
Novices continually join organizations that operate in risky circumstances. Their training and education starts in the classroom and continues to the field but it is conditioning that makes the methods of HRO routine in non-routine situations.			
C		How can daily operations prepare us for the unexpected?	Gary Provansal (m), Renaud Vidal
What you do everyday is what you do in an emergency. This panel discusses how to develop daily routines that easily expand to engage a crisis or emergency. Lessons learned from major fires and a riot along with new information about physiological measures taken during simulations illustrate these methods.			
C		Change and Organization from A Panel - <i>Note: this panel is repeated from A Panels</i>	Dale Marsden (m): Bert Slagmolen, Charles Cowley, Bruce Spurlock, Howard Bergendahl (abstract)
Organizations change through structure, lines of communication, and changes in the individual. While it is easy to change any one element, change toward HRO involves interactive changes in all elements. When change is imposed it creates resistance, when change is internalized it creates passion and will spontaneously spread throughout an organization. This panel will present methods to win the “hearts and minds” of people while developing common values.			

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C		Repeated panel from Panel A or B	
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12:00-1:00 p.m.	Lunch		
1:00-2:30 p.m.	Abstract Presentations		
1:00-2:30 p.m.	D. Parallel Panels	3 Panel discussions below to choose from. 4 Popular panels from Day 1 can be added as choices as well.	
<b>Session</b>		<b>Presentation/Title</b>	<b>Speaker</b>
D		Resilience, variation, and standardization: Are they at variance?	Bruce Spurlock (m), Dan Kleinman, Beth Lay, Thomas A. Mercer
Standardization facilitates communication and training while variation increases adaptability. This panel discusses how these differences interact during unexpected events to move from brittleness to resilience.			
D		The projection of thought in the stochastic environment: Decision making in uncertainty and time-compressed states	Daved van Stralen (m), Jim Holbrook, Rhona Flin
People in HROs must make decisions with imperfect information in time-compressed circumstances. Relying too heavily on experience may anchor us to strongly in the past and not take us into the future. How do we move into the future when the future is thrust upon us?			
D		Pushback	Bert Slagmolen (m), Marc Flitter, Ralph Soule, Bill Rigot
Change programs may be imposed on people and organizations as a desired program. The benefit is the person making the change does not have to change. HRO relies on people internalizing the change which can give pushback from all levels of the organization. This pushback toward change may be a latent cause of failure during implementation of any reliability or safety program. Experts will discuss their experience, successful and failed, with pushback specific to HRO.			
D		Questioning Doubt <i>Note: this panel is repeated from B Panels</i>	
Doubt can lead to lack of confidence and unwillingness to engage while overconfidence leads to aggressive interaction with little forethought. Doubt can give the pause necessary for better sensemaking. Questioning attitudes can elaborate the complexity if the situation and enhance deference to expertise.			

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D		<i>Repeated panel from Panel A or B</i>	
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2:30-2:50 p.m.	Break		
2:50-3:30 p.m.		The Experience of Reliability	Karl Weick
This session, through use of presentations made at the conference, will illustrate that HRO language helps turn events into experience.			