

Joint meeting IESIS and ISE

The Marlow Lecture

## Human Factors in 'Bowtie' Risk Management



### Dr Ron McLeod



Engineering industries place great reliance on layers-of-defences, or “barriers”, to protect against the potential for major losses. In recent years, the “Bowtie Analysis” method has seen major growth around the world as a means of identifying and managing barriers in industries including oil and gas, energy, chemicals, manufacturing, rail, maritime and air traffic management among others. Human performance continues to be the single most widely relied on barrier. “Human error”, in its many forms, continues to be a significant threat to the reliability of engineered and organizational barriers.

Using the Bowtie Analysis method for illustration and drawing on case studies including the 2005 explosion and fire at the Buncefield fuel storage site, a fatality in a pipeline operation, and incidents in healthcare, Ron McLeod will explore and illustrate the role of human performance in barrier management systems.

Ron McLeod was Royal Dutch Shell’s Global Discipline Lead for Human Factors from 2007 to 2013. He is Honorary Professor of Engineering Psychology at Heriot-Watt University, Visiting Professor of Human Factors at Loughborough University School of Design and teaches at MSc level at Aberdeen University. He was a Society of Petroleum Engineers Distinguished Lecturer in 2016-17 and sits as a committee member for the US National Academy of Sciences, Engineering and Medicine.

Admission Free  
Visitors Welcome  
Please register at:  
<https://www.eventbrite.co.uk/e/human-factors-in-barrier-management-tickets-36925375793>

**Tuesday 13th Feb 2018**  
17.15 for 18.30  
Room 301, McCance Building  
Richmond Street  
Glasgow, G1 1XQ

Please forward to your  
colleagues  
Tea and coffee provided  
CPD Certificates available