OPERA May 2026 Seminar

Quantified Risk Assessment (QRA) - do they help or do they mislead?

Presenter Bio:

Stephen Beedle is a Principal Consultant in the Process Safety Group of TÜV Rheinland Industrial Services Limited on Teesside. 35 years' experience in a range of sectors including petrochemicals, mining, metals, ammonia, specialty chemicals and hydrogen. Technical expertise in the application of consequence assessment, hazard analysis, occupied building risk assessment, quantified risk assessment (QRA) and SIL assessment of instrumented protective systems. For the last 14 years a visiting lecturer at Newcastle University.

About this presentation:

Quantified Risk Assessments (QRAs) are widely used in the chemical industry and range from relatively simple approaches, such as Layer of Protection Analysis (LOPA), to large and complex site-wide assessments that generate risk contours and profiles based on hundreds of data inputs.

Despite their widespread use, several important questions remain:

- Are QRAs genuinely useful?
- Do they provide the information decision-makers actually need?
- Do they drive meaningful risk reduction—or can they create a false sense of precision and potentially mislead?

This presentation will examine the strengths and limitations of different forms of QRA, drawing on practical experience from their application in industrial settings.

It will explore where QRAs add real value, where they may fall short, and how they can sometimes obscure rather than clarify risk.

Finally, it will outline alternative or complementary approaches that may better support effective risk management and decision-making.