There have been a range of attacks on the quantification of risk in earthing system design and assessment, including claims that such practices are archaic and irresponsible in the new world of due diligence. The presenters claim that whilst such arguments have appeal in a theoretical context, they fail in the light of real world needs to make responsible decisions across many assets and situations with restricted resources and compelling utility.

Both proponents and critics of traditional risk management approaches are frenetically debating ALARA, ALARP, SFAIRP, and many other of the latest trending acronyms associated with risk management principles. Most of these, including Bow Tie analysis and lists of credible vulnerabilities and credible threats, all direct us to outcomes that are reasonably practicable. Australia’s Work Health and Safety Act 2011 is quite clear on what is reasonably practicable in relation to a duty to ensure health and safety by reducing risk. It states that after assessing the extent of the risk, it is necessary to calculate the cost of risk minimisation strategies and whether or not the cost associated is grossly disproportionate to the risk. In the isolated assessment of just one case, this requires that we must somehow assess the change in risk and compare it to the cost associated with the treatment under consideration. In the more common situation where those involved are actually accountable for the responsible use of resources, including time & money, across a vast range of cases, this in itself becomes impracticable without a measuring stick for risk that can be moved between cases. Reasonably practicable can no more readily be claimed or defended, without a quantified assessment of risk, than it can without a measure of currency for determining the cost.

The context of this presentation is in the practicalities of designing, constructing and maintaining safe earthing systems but we suspect this work is relevant to all areas where engineers working in foresight struggle with the twenty twenty hindsight of the legal & judicial system.

ABOUT THE SPEAKER

Stephen Palmer is the Director of Safearth Consulting and an earthing specialist with expertise in all areas related to earthing, including design, audit and test in sectors including power generation and delivery, heavy industry, mining and rail.

With nearly 16 years in full time earthing, lightning protection and induction risk management, Stephen has learnt a lot first hand, but with a team of 25 consultants & researchers his experience extends well beyond his own testing & analysis.

Stephen has delivered formal earthing training since 2000 and has presented at numerous conferences including for the NSW Government, ENA, Engineers Australia, Cigre, and IEEE. He has been a contributing member of committees responsible for EG-0, AS3007 and AS2067, recently co-delivered the testing tutorial for IEEE81 and is the secretary of the Cigre & CIRED Joint Working Group B3.35 tasked to publish on substation earthing design optimisation including quantified risk.