

Workshop: An engineering perspective on risk assessment: from theory to practice

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Treatment of uncertainty in fire safety risk analysis

Monday 26 November 2018 11:30 (20 minutes)

Fire safety engineering is still a rather young engineering discipline which is under a rapid development. Historically, fire safety issues have been treated by prescriptive means based on lessons learned from incidents that had occurred. The practical problem occurs when there is no reference to be used. The traditional solution has been to rely on expert judgement, often with limited evidence. The result could then lead to a costly solution as a conservative design approach would be used in order to try to fit the prescriptive specifications. But because of the introduction of performance based codes or specifications scientifically based engineering methods have become more frequent to verify a proposed fire safety solution for a facility. However, there is still a lack of consensus regarding methods to be used to not only verify a specific exposure condition, i.e. a specified scenario, but to also include the treatment of the inherent uncertainty. The presentation will focus on how, in a practical application, more or less quantitative risk assessment methods can be used in fire safety engineering verifications and what are the limitations of some of these. The presentation will also cover the relation between applied methods and the level of detail of the uncertainty treatment in the assessment.

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