

1.7 Performance Based Design for Fire Safety

1	Duration	15 days (100 hours) Course may be foreshortened by 5 days for those delegates who have successfully completed the CFPA Principles of Fire Safety Engineering course or pass a pre-course examination
2	Aim	The aim of this course is to develop in students a detailed understanding of the principles of performance based design techniques and fire engineering standards in order that they are better able to interpret building designs and fire safety solutions developed using these techniques .
3	Target Public	Building Control Authority Officers, Fire Authority Officers, Other Inspecting Officers, Consultant Engineers, Fire Engineers .
4	Prerequisites	Qualification or suitable experience in mathematics and a good understanding of the concepts of fire .
5	Objectives	<ul style="list-style-type: none"> • To provide a comprehensive understanding of the fundamentals of fire, how it is initiated, how it grows and the hazards that it generates • To give delegates an appreciation of how the factors associated with fire can be expressed in a quantitative way. • Undertake detailed review of national standards for fire engineering . • To provide a comprehensive understanding of the practical application of performance based design methods and techniques including: <ul style="list-style-type: none"> • Setting objectives - Considering national standards and regulations • Setting success criteria via comparative and risk assessed solutions • Building design considerations • Design review • Quantified analyses • Review of analysis against acceptance/success criteria • Development of fire safety strategies • Management considerations
6	Programme	
	Group	Unit Subject
	Design Review	<ul style="list-style-type: none"> • Setting objectives • Outlining success criteria • Comparative solutions • Risk assessed solutions • Review of national standards and legislation • Review of building description and design • Occupant characterisation
	Quantified Analysis	<ul style="list-style-type: none"> • Fire Growth and Development • Spread of smoke within and beyond enclosure of origin • Structural response and fire spread beyond enclosure of origin • Detection of fire and activation of fire protection systems • Fire service intervention • Evacuation
	Risk Assessment	<ul style="list-style-type: none"> • Purpose, probabilistic methods and outcomes
	Review	<ul style="list-style-type: none"> • Comparison of quantified analysis with success/acceptance criteria
	Fire safety strategy and Management	<ul style="list-style-type: none"> • Design of strategy and management routines to suit initial objectives and success criteria and quantitative solution .

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7	Related CFPA-E Guidelines	<ul style="list-style-type: none">• 4:2003 F; 13:2006 F; 19:2009 F
8	Examination	Written examination plus a case study management report presented in writing or orally
9	Certificate - Diploma - Attest	Diploma Optional subtitle «Performance Based Design Reviewer CFPA-E»
10	Countries Running the Course	<ul style="list-style-type: none">• Italy (isfop@networkaias.it, www.isfop.it)• UK (training@thefpa.co.uk, www.thefpa.co.uk)