1. Title	Design complicated non-conventional fire services	
2. Code	EMFSDE701A	
3. Range	Capable to apply highly specialized design techniques, in the absence of complete or consistent data/information, to perform complicated, performance-based fire services design work at locations of large premises where sophisticated fire system design is involved.	
4. Level	7	
5. Credit	15	
6. Competency		Performance Requirements
	6.1 Master client needs and methods of designing highly complicated, non-conventional fire services	♦ Master the uses of large buildings, special architectural design requirements, project schedules and the design criteria of *non-conventional fire systems ♦ Master the principles of fire dynamics ♦ Understand the performance-based fire service design methods and their major codes, including: • The Code of Practice for Fire Service Installations and Equipment, and relevant legislations • Recognized international standards
	6.2 Tasks of designing complicated, *non-conventional fire services	♦ Plan and lead tasks of designing performance-based major fire services, in the absence of complete or consistent data/information, according to client needs, manufacturer guidelines, recognized standards and relevant local regulations, including: • Determining performance-based design goals and acceptable criteria • Assessing fire hazards • Analyzing feasibility design packages ♦ Formulate the system configurations and equipment specifications of complicated, *non-conventional fire service design in the absence of complete or consistent data/information ♦ Master the application of CFD simulation software • Apply highly specialized and innovative techniques in complicated fire simulation • Analyze results and modify the design for best performance

7. Assessment Criteria	The integrated outcome requirements of this unit of competency are: (i) Capable to apply highly specialized and innovative techniques, in the absence of complete or consistent data/information, to perform tasks of designing extremely complicated, performance-based fire services; and (ii) Capable to plan and lead tasks of designing performance-based major fire services, including the setting of performance-based design goals and acceptable criteria, and the analysis of feasibility design packages.
8. Remarks	The credit value of this unit of competency is set on the presumption that the person already possesses basic knowledge of non-conventional fire service design. *Non-conventional fire service design replaces the prescriptive provisions of the Code of Practice for Fire Service Installations and Equipment with fire engineering design methods that require highly specialized techniques and a set of designs acceptable to the Fire Services Department.