COGSC9
Provide deterministic assessments for nuclear safety cases

Overview

This unit is about activities in the development of a deterministic assessment.

This activity includes reviewing the hazards arising from an activity, and defining the scope of the deterministic assessment, obtaining relevant data, applying engineering substantiation techniques, reconciling the outputs of the engineering substantiation, and identifying safety functions, considering the results, and explaining any uncertainties or limitations.

The activity is likely to be undertaken by someone involved in preparing safety cases primarily by writing them or contributing to the detailed content.

This unit deals with the following:

1. Provide deterministic assessments for nuclear safety cases

During this work you must take account of the relevant worksite operational requirements, procedures and safe working practices AS THEY APPLY TO YOU.

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Performance criteria

You must be able to:

P1 review the outcomes of all relevant hazard identification studies
P2 define the scope of the deterministic assessment and how it contributes to the safety case
P3 obtain and collate all relevant data for the deterministic assessment by using appropriate information sources and specialist assistance if necessary
P4 apply appropriate engineering substantiation techniques incorporating the relevant engineering standards
P5 reconcile the outputs from the engineering substantiation with the stated safety functions and claims being made in the safety case
P6 identify the safety functions of the relevant structures, systems, and components that act as lines of protection
P7 collate all relevant information to ensure the deterministic assessment provides a clear safety argument
P8 consider the results of the deterministic assessment against ALARP principles
P9 explain clearly any uncertainties or limitations relating to the results of the deterministic assessment
P10 comply with all relevant regulations and standards, and record all relevant actions and outcomes in the appropriate information systems

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Knowledge and understanding

You need to know and understand:

K1 ALARP principles
K2 communication and presentation methods
K3 engineering substantiation
K4 hazard and risk assessment methods
K5 health and safety issues and requirements
K6 nuclear industry: types of facilities, materials, and processes
K7 organisational structures and procedures
K8 radiation: types, sources, and hazards
K9 safety case design and preparation
K10 statutory requirements, regulations, and standards, including international, national, and local

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Developed by	Cogent
Version number	1
Date approved	October 2009
Indicative review date	October 2011
Validity	Current
Status	Original
Originating organisation	Cogent
Original URN	SC9
Relevant occupations	Professional Occupations; Engineering Professionals; Engineering and manufacturing technology; Engineering
Suite	Safety Case Preparation
Key words	provide, deterministic, assessments, safety case, content, review, hazards