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National Occupational Standards for Safety Case Preparation Approved by UKCG December 2005

The Sector Skills Council for Chemicals, Nuclear, Oil and Gas, Petroleum and Polymers

AMENDMENTS				
AMENDMENT & DATE	**PAGES**	**CHANGES MADE BY:**	**CHECKED BY:**	**APPROVED BY:**

Any amendments made to this standard by Cogent will be recorded above.

Listing of Safety Case Preparation Units

N301 Establish the scope of nuclear safety cases

Commentary

The main outcome of this activity is a clear specification or description of the safety case that needs to be developed.

This activity includes establishing the type of safety case required, and the claims that need to be made; reviewing previous similar safety cases, and identifying any unique factors of the current one; identifying any constraints, and specifying the scope of the safety case

This activity is likely to be undertaken by someone involved in preparing safety cases, either by managing them or by contributing technical content for them.

Performance Statements

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

a) Confirm the activity which needs to be covered by the safety case

b) Establish the type of safety case that is required for the activity

c) Determine the safety claims that need to be made within the safety case

d) Review any other safety cases, evidence, and information that are relevant to the claims being made

e) Identify any unique or specific features of the safety case that need particular attention

f) Consult with the relevant key stakeholders on the scope of the safety case

g) Identify any potential constraints to the development of the safety case

h) Specify the scope of the safety case according to organisational procedures

i) Comply with all relevant regulations and standards, and record all relevant actions and outcomes in the appropriate information systems

Knowledge and Understanding

Within the limits of your responsibility you must know and understand:

Hazard and risk assessment methods

Health and safety issues and requirements

Nuclear industry: types of facilities, materials, and processes

Organisational structures and procedures

Radiation: types, sources, and hazards

Safety case design and preparation

Sources of authoritative information on safety cases

Stakeholder requirements

Statutory requirements, regulations, and standards, including international, national, and local

N302 Liaise with stakeholders directly involved with the safety case

Commentary

The main outcome of this activity is keeping stakeholders involved in the preparation of the safety case. Stakeholders are individuals or representatives of organisations who have a strong and influential interest in the organisation.

This activity includes identifying the different stakeholders and the relationships with them; providing information to them and obtaining their views; maintaining communications and responding to questions; meeting agreements; identifying and resolving conflicts.

This activity is likely to be undertaken by someone involved in preparing safety cases, either by managing them or by contributing technical content for them.

Performance Statements

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

a) Establish relationships with all stakeholders who are relevant to the preparation of the safety case

b) Identify the roles and responsibilities of different stakeholders in relation to the preparation of the safety case

c) Inform stakeholders about the organisation's objectives and actions in relation to the safety case

d) Provide information that is relevant to the stakeholders' requirements, and ensure it is as accurate as possible

e) Ensure that the interests, views, and expectations of the stakeholders are clarified

f) Maintain communication with stakeholders according to their importance and relevance to the decisions and actions being undertaken

g) Respond to any questions raised, and refer any questions that cannot be answered to the appropriate person

h) Ensure that agreements with stakeholders are fulfilled whenever possible

i) Identify any conflicts of interest and disagreements with stakeholders and resolve them as effectively as possible

j) Review relationships with stakeholders at appropriate intervals

k) Comply with all relevant regulations and standards, and record all relevant actions and outcomes in the appropriate information systems

Knowledge and Understanding

Within the limits of your responsibility you must know and understand:

Communication and presentation methods

Hazard and risk assessment methods

Health and safety issues and requirements

Nuclear industry: types of facilities, materials, and processes

Organisational structures and procedures

Radiation: types, sources, and hazards

Safety case design and preparation

Stakeholder requirements

Statutory requirements, regulations, and standards, including international, national, and local

N303 Plan and coordinate the preparation of nuclear safety cases

Commentary

The main outcome of this activity is a project plan that will guide the preparation of a safety case, involving the coordination of all relevant resources.

This activity includes reviewing the requirements of the safety case; identifying the work that needs to be done and the resources required to complete it; scheduling the work, taking into account any uncertainties or risks; calculating costs; monitoring progress, and ensuring the work is completed on time.

This activity is likely to be undertaken by someone involved in preparing safety cases primarily by managing them.

Performance Statements

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

a) Review all relevant factors that need to be taken into account during the preparation of the safety case

b) Specify clearly the work that is needed to prepare the safety case, and assess the options for delivering the work

c) Identify the resources and skills required for the preparation of the safety case

d) Schedule the optimum sequence, milestones, and deadlines for the safety case, and integrate them into the project plan

e) Identify any uncertainties and project risks associated with the preparation of the safety case

f) Calculate the cost of preparing safety case, and obtain authorisation for expenditure if necessary

g) Monitor the progress being made to ensure the work is completed according to schedule

h) Assess whether the work is providing suitable evidence for use in the safety case

i) Maintain contact with all relevant stakeholders, and provide information on progress at regular intervals

j) Identify and resolve any problems relating to the preparation of the safety case

k) Comply with all relevant regulations and standards, and record all relevant actions and outcomes in the appropriate information systems

Knowledge and Understanding

Within the limits of your responsibility you must know and understand:

Hazard and risk assessment methods

Health and safety issues and requirements

Nuclear industry: types of facilities, materials, and processes

Organisational structures and procedures

Project planning methods

Radiation: types, sources, and hazards

Safety case design and preparation

Statutory requirements, regulations, and standards, including international, national, and local

N304 Assign the production of evidence for nuclear safety cases

Commentary

The main outcome of this activity is to decide which colleagues will produce evidence for inclusion in the safety case; the colleagues can be either employed by the same organisation or through other contractual arrangements.

This activity includes reviewing the evidence requirements of the safety case; selecting suitable colleagues to provide the evidence; informing colleagues of their role and responsibilities; responding to any questions.

This activity is likely to be undertaken by someone involved in preparing safety cases primarily by managing them.

Performance Statements

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

a) Identify clearly the type of evidence required for the safety case

b) Select colleagues who can develop the evidence required for the safety case

c) Allocate the production of evidence in a way that effectively utilises the knowledge, skills, and experience of colleagues

d) Confirm the capability of colleagues to produce the evidence according to the project plan

e) Implement organisational procedures for recruiting and contracting with external suppliers when required

f) Inform colleagues of their role and responsibilities for producing evidence, and ensure that they are informed of any changes in the requirements

g) Respond to any questions raised by colleagues, and refer any questions that cannot be answered to the appropriate person

h) Comply with all relevant regulations and standards, and record all relevant actions and outcomes in the appropriate information systems

Knowledge and Understanding

Within the limits of your responsibility you must know and understand:

Communication and presentation methods

Contracting methods

Hazard and risk assessment methods

Health and safety issues and requirements

Nuclear industry: types of facilities, materials, and processes

Organisational structures and procedures

Project planning methods

Radiation: types, sources, and hazards

Safety case design and preparation

Statutory requirements, regulations, and standards, including international, national, and local

N305 Obtain contextual information for nuclear safety cases

Commentary

The main outcome of this activity is to obtain contextual information. This is information that is not derived from detailed analyses or measurements, but is more descriptive, such as the way an activity will be undertaken, the purpose of an activity, etc.

This activity includes identifying the type of contextual information that is required; obtaining the contextual information; checking the accuracy and suitability of the information, and collating it.

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

Performance Statements

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

a) Identify the contextual information that could be included directly in the safety case

b) Identify information sources and methods of accessing contextual information

c) Obtain the appropriate contextual information from the information sources

d) Check the accuracy and suitability of the contextual information obtained

e) Collate contextual information ready for use in the safety case

f) Identify and resolve any problems relating to obtaining the contextual information

g) Comply with all relevant regulations and standards, and record all relevant actions and outcomes in the appropriate information systems

Knowledge and Understanding

Within the limits of your responsibility you must know and understand:

Communication and presentation methods

Hazard and risk assessment methods

Health and safety issues and requirements

Nuclear industry: types of facilities, materials, and processes

Organisational structures and procedures

Radiation: types, sources, and hazards

Safety case design and preparation

Sources of authoritative information on safety cases

Statutory requirements, regulations, and standards, including international, national, and local

N306 Identify safety hazards for nuclear safety cases

Commentary

The main outcome of this activity is the identification of safety hazards, undertaken by the use of recognised hazard identification procedures.

This activity includes selecting appropriate hazard identification methods for the type of safety case; obtaining relevant data on the hazards; applying the chosen hazard identification method; listing the hazards and prioritising them; identifying systems and safeguards; communicating any issues to the relevant people.

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

Performance Statements

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

a) Confirm the scope and subject of the safety case and how the hazard identification methods will contribute to its preparation

b) Select the appropriate hazard identification methods, and justify their use by identifying their strengths and weaknesses

c) Obtain and collate all relevant data on the hazards by using appropriate information sources

d) Apply the hazard identification methods by adopting suitable techniques relevant to the safety case

e) Compile a list of hazards, and identify the main causes and consequences of them

f) Identify the hazards that need to be assessed for their risks, and prioritise those that require immediate attention

g) Identify protection systems and safeguards that could be applied to the hazards

h) Ensure that any issues relating to the causes of hazards are communicated to those involved in the relevant design process

i) Comply with all relevant regulations and standards, and record all relevant actions and outcomes in the appropriate information systems

Knowledge and Understanding

Within the limits of your responsibility you must know and understand:

Communication and presentation methods

Hazard and risk assessment methods

Hazard identification methods, eg HAZOP, FMEA, task analysis, walk down/checklists

Health and safety issues and requirements

Human factors

Nuclear industry: types of facilities, materials, and processes

Organisational structures and procedures

Radiation: types, sources, and hazards

Safety case design and preparation

Statutory requirements, regulations, and standards, including international, national, and local

N307 Provide consequence assessments for nuclear safety cases

Commentary

The main outcome of this activity is the development of a consequence assessment, to be included in the overall risk assessment in the safety case.

This activity includes reviewing the hazards arising from an activity, and defining the scope of the consequence assessment; selecting appropriate consequence assessment methods; obtaining relevant data; applying the consequence assessment method; identifying radiological release mechanisms; providing data on the consequences, and explaining any uncertainties or limitations.

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

Performance Statements

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

a) Review the outcomes of all relevant hazard identification studies

b) Define the scope of the consequence assessment and how it contributes to the safety case

c) Select the appropriate consequence assessment method, and justify its use by identifying its strengths and weaknesses

d) Obtain and collate all relevant data for the consequence assessment by using appropriate information sources and specialist assistance if necessary

e) Apply the consequence assessment method by adopting suitable techniques relevant to the safety case

f) Identify the radiological release mechanisms and the sequence of events that could develop as a result of hazards

g) Undertake detailed assessments of the consequence of the hazards for the site, off-site, and on the environment

h) Generate data on consequences for use in risk assessments and for developing plant procedures

i) Consider the results of the consequence assessment against ALARP principles

j) Explain clearly any uncertainties or limitations relating to the results of the consequence assessment

k) Comply with all relevant regulations and standards, and record all relevant actions and outcomes in the appropriate information systems

Knowledge and Understanding

Within the limits of your responsibility you must know and understand:

ALARP principles

Communication and presentation methods

Consequence assessment methods

Hazard and risk assessment methods

Health and safety issues and requirements

Nuclear industry: types of facilities, materials, and processes

Organisational structures and procedures

Radiation: types, sources, and hazards

Safety case design and preparation

Statutory requirements, regulations, and standards, including international, national, and local

N308 Provide frequency assessments for nuclear safety cases

Commentary

The main outcome of this activity is the development of a frequency assessment, to be included in the overall risk assessment in the safety case.

This activity includes reviewing the hazards arising from an activity, and defining the scope of the frequency assessment; selecting appropriate frequency assessment methods; obtaining relevant data; applying the frequency assessment method; identifying factors leading to failures, and providing data on their frequency; considering the results, and explaining any uncertainties or limitations.

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

Performance Statements

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

a) Review the outcomes of all relevant hazard identification studies

b) Define the scope of the frequency assessment and how it contributes to the safety case

c) Select the appropriate frequency assessment method, and justify its use by identifying its strengths and weaknesses

d) Obtain and collate all relevant data for the frequency assessment by using appropriate information sources and specialist assistance if necessary

e) Apply the frequency assessment method by adopting suitable techniques relevant to the safety case

f) Identify the common failure mode and rates for the nuclear-related activities being undertaken

g) Identify the specific human and plant factors and the sequence of events that could lead to failures to control the hazards

h) Generate data and quantify the frequency of failures for use in risk assessments and for developing plant procedures

i) Consider the results of the frequency assessment against ALARP principles

j) Explain clearly any uncertainties or limitations relating to the results of the frequency assessment

k) Comply with all relevant regulations and standards, and record all relevant actions and outcomes in the appropriate information systems

Knowledge and Understanding

Within the limits of your responsibility you must know and understand:

ALARP principles

Communication and presentation methods

Frequency assessment methods, including fault trees and event trees

Hazard and risk assessment methods

Health and safety issues and requirements

Human factors

Nuclear industry: types of facilities, materials, and processes

Organisational structures and procedures

Radiation: types, sources, and hazards

Reliability and failure modes

Safety case design and preparation

Statutory requirements, regulations, and standards, including international, national, and local

N309 Provide deterministic assessments for nuclear safety cases

Commentary

The main outcome of this activity is 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.

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

Performance Statements

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

a) Review the outcomes of all relevant hazard identification studies

b) Define the scope of the deterministic assessment and how it contributes to the safety case

c) Obtain and collate all relevant data for the deterministic assessment by using appropriate information sources and specialist assistance if necessary

d) Apply appropriate engineering substantiation techniques incorporating the relevant engineering standards

e) Reconcile the outputs from the engineering substantiation with the stated safety functions and claims being made in the safety case

f) Identify the safety functions of the relevant structures, systems, and components that act as lines of protection

g) Collate all relevant information to ensure the deterministic assessment provides a clear safety argument

h) Consider the results of the deterministic assessment against ALARP principles

i) Explain clearly any uncertainties or limitations relating to the results of the deterministic assessment

j) Comply with all relevant regulations and standards, and record all relevant actions and outcomes in the appropriate information systems

Knowledge and Understanding

Within the limits of your responsibility you must know and understand:

ALARP principles

Communication and presentation methods

Engineering substantiation

Hazard and risk assessment methods

Health and safety issues and requirements

Nuclear industry: types of facilities, materials, and processes

Organisational structures and procedures

Radiation: types, sources, and hazards

Safety case design and preparation

Statutory requirements, regulations, and standards, including international, national, and local

N310 Provide risk assessments for nuclear safety cases

Commentary

The main outcome of this activity is a risk assessment that takes into account all relevant information and assessments.

This activity includes reviewing the outcomes of all relevant assessments; defining the scope of the risk assessment; obtaining and collating relevant data; selecting appropriate risk assessment methods, and identifying risk criteria; calculating and assessing risks, and explaining any uncertainties or limitations.

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

Performance Statements

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

a) Review the outcomes of relevant consequence and frequency assessments

b) Define the scope of the risk assessment and how it contributes to the safety case

c) Select the appropriate risk assessment methods, and justify their use by identifying their strengths and weaknesses

d) Obtain and collate all relevant data for the risk assessment by using appropriate information sources and specialist assistance if necessary

e) Identify the appropriate risk criteria to be applied in the risk assessment

f) Calculate and quantify the risks arising from the nuclear-related activities

g) Compare the risks against the relevant criteria and determine whether they are acceptable

h) Assess the results of the risk assessment against ALARP principles

i) Identify methods for managing residual risks, including beyond design basis events, and recommend ways of reducing them

j) Explain clearly any uncertainties or limitations relating to the results of the risk assessment

k) Comply with all relevant regulations and standards, and record all relevant actions and outcomes in the appropriate information systems

Knowledge and Understanding

Within the limits of your responsibility you must know and understand:

ALARP assessment

ALARP principles

Communication and presentation methods

Hazard and risk assessment methods

Health and safety issues and requirements

Human factors

International, national, and organisational risk criteria

Nuclear industry: types of facilities, materials, and processes

Organisational structures and procedures

Radiation: types, sources, and hazards

Risk assessment methods

Safety case design and preparation

Statutory requirements, regulations, and standards, including international, national, and local

N311 Identify methods to control identified nuclear safety risks

Commentary

The main outcome of this activity is the identification of methods to control risks identified in a risk assessment.

This activity includes reviewing the results of a risk assessment; identifying safe operating limits and safety equipment and procedures; determining personnel levels; providing instructions to operators; specifying emergency response plans; identifying any improvements that might be needed.

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

Performance Statements

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

a) Review the results of the risk assessment for the nuclear safety risks

b) Establish safe operating limits for the plant and equipment being used

c) Identify and classify the structures, systems, and components and their safety functions relevant to the nuclear-related activity

d) Identify the key safety equipment and procedures that should be used to control hazards

e) Determine operating personnel levels, training, and other aspects relating to human factors in dealing with safety risks

f) Provide clear instructions to operators to undertake activities and use plant and equipment within safety operating limits

g) Identify which plant and equipment should be available for use, and the extent to which they can be substituted

h) Specify emergency response plans and arrangements for responding to safety failures

i) Identify any outstanding work, including improvements, that need to be undertaken to minimise safety risks

j) Comply with all relevant regulations and standards, and record all relevant actions and outcomes in the appropriate information systems

Knowledge and Understanding

Within the limits of your responsibility you must know and understand:

Communication and presentation methods

Hazard and risk assessment methods

Health and safety issues and requirements

Human factors

International, national, and organisational risk criteria

Nuclear industry: types of facilities, materials, and processes

Organisational structures and procedures

Radiation: types, sources, and hazards

Risk assessment methods

Safety case design and preparation

Statutory requirements, regulations, and standards, including international, national, and local

N312 Write technical content for inclusion in nuclear safety cases

Commentary

The main outcome of this activity is the production of written technical content, for example to summarise data and outline findings.

This activity includes confirming what is required and obtaining the data and details needed for the technical content; presenting the technical content in a logical order; producing accurate and useful text and graphics; meeting the agreed timescale.

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

Performance Statements

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

a) Confirm the technical content required for the safety case

b) Obtain all data and details that need to be incorporated into the technical content

c) Identify the main aspects of the technical content that need to be conveyed

d) Identify and order the sections of the technical content to produce a logical structure

e) Produce text and graphics to effectively convey the required technical content

f) Ensure that the text and graphics are free from errors according to the agreed procedures

g) Produce text and graphics in the formats required in the safety case

h) Provide the technical content to the relevant stakeholders according to the agreed time scale

i) Comply with all relevant regulations and standards, and record all relevant actions and outcomes in the appropriate information systems

Knowledge and Understanding

Within the limits of your responsibility you must know and understand:

Communication and presentation methods

Hazard and risk assessment methods

Health and safety issues and requirements

Nuclear industry: types of facilities, materials, and processes

Organisational structures and procedures

Radiation: types, sources, and hazards

Safety case design and preparation

Stakeholder requirements

Statutory requirements, regulations, and standards, including international, national, and local

N313 Verify evidence for nuclear safety cases

Commentary

The main outcome of this activity is the verification of evidence used in nuclear safety cases, either during the editing process by the writer themselves, or during a peer review or approval process by someone else.

This activity includes reviewing the information sources and assessment methods used; identifying any anomalies or inconsistencies; checking compliance with regulations; following verification procedures; providing information on the verification results; identifying any implications for the safety case.

This activity is likely to be undertaken by someone involved in preparing safety cases, either by managing them or by contributing technical content for them.

Performance Statements

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

a) Review the information sources used for the generation of the evidence for the safety case

b) Verify the assessment methods used for the generation of the evidence for the safety case

c) Identify any anomalies or inconsistencies in the evidence

d) Identify any issues affecting the quality of the evidence

e) Check that all relevant regulations and guidelines are complied with

f) Verify the evidence according to the verification procedures relating to safety cases

g) Provide information on the results of the verification procedures to all relevant stakeholders

h) Identify any implications for the safety case arising from the evidence

i) Collate all relevant evidence for presentation to the appropriate colleagues

j) Comply with all relevant regulations and standards, and record all relevant actions and outcomes in the appropriate information systems

Knowledge and Understanding

Within the limits of your responsibility you must know and understand:

Communication and presentation methods

Hazard and risk assessment methods

Health and safety issues and requirements

Nuclear industry: types of facilities, materials, and processes

Organisational structures and procedures

Radiation: types, sources, and hazards

Safety case design and preparation

Stakeholder requirements

Statutory requirements, regulations, and standards, including international, national, and local

N314 Develop safety claims for use in nuclear safety cases

Commentary

The main outcome of this activity is the development of arguments and safety claims that provide the main focus of the safety case.

This activity includes reviewing the evidence produced for the safety case to ensure it supports the arguments and claims; selecting which evidence to use; providing rational and evidence-based arguments; producing a top-level report, summarising key information, and stating conclusions.

This activity is likely to be undertaken by someone involved in preparing safety cases, either by managing them or by contributing technical content for them.

Performance Statements

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

a) Review all the evidence produced for the safety case

b) Ensure the evidence has been verified through the agreed verification procedures

c) Confirm that the evidence supports the arguments and claims in the safety case

d) Select all relevant evidence for inclusion in the safety case

e) Consult with all key stakeholders on their views of the safety claims

f) Provide rational and evidence-based arguments to support the safety claims

g) Produce top-level safety reports that summarise the key information and conclusions arising from the work on the safety case

h) Comply with all relevant regulations and standards, and record all relevant actions and outcomes in the appropriate information systems

Knowledge and Understanding

Within the limits of your responsibility you must know and understand:

Communication and presentation methods

Hazard and risk assessment methods

Health and safety issues and requirements

Nuclear industry: types of facilities, materials, and processes

Organisational structures and procedures

Radiation: types, sources, and hazards

Safety case design and preparation

Stakeholder requirements

Statutory requirements, regulations, and standards, including international, national, and local

N315 Identify residual safety risks in nuclear safety cases

Commentary

The main outcome of this activity is the identification of residual safety risks, ie those risks that have to be minimised and managed.

This activity includes reviewing the evidence produced for the safety case; identifying the residual safety risks; identifying how to minimise and manage the risks; providing recommendations for controlling the risks, and establishing responsibilities for doing so.

This activity is likely to be undertaken by someone involved in preparing safety cases, either by managing them or by contributing technical content for them.

Performance Statements

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

a) Review all the evidence produced for the safety case

b) Identify the type and degree of the residual safety risks of the activity

c) Identify the activities and resources that are needed to minimise and manage the residual safety risks

d) Consult with all key stakeholders on their views of the residual safety risks

e) Provide recommendations and specifications for ways to minimise and manage the residual safety risks

f) Establish responsibilities for developing the means to minimise and manage residual safety risks

g) Comply with all relevant regulations and standards, and record all relevant actions and outcomes in the appropriate information systems

Knowledge and Understanding

Within the limits of your responsibility you must know and understand:

ALARP principles

Communication and presentation methods

Hazard and risk assessment methods

Health and safety issues and requirements

Nuclear industry: types of facilities, materials, and processes

Organisational structures and procedures

Radiation: types, sources, and hazards

Safety case design and preparation

Stakeholder requirements

Statutory requirements, regulations, and standards, including international, national, and local

N316 Manage review and approval procedures for nuclear safety cases

Commentary

The main outcome of this activity is the management of review and approval procedures to ensure that nuclear safety cases comply with all requirements.

This activity includes specifying the procedures for reviewing and approving safety cases; selecting people to review and approve safety cases; providing guidance on what is required by those involved, including authors and stakeholders; ensuring the safety cases are presented effectively, and that the procedures comply with regulations.

This activity is likely to be undertaken by someone involved in preparing safety cases primarily by managing them.

Performance Statements

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

a) Assess the options for reviewing and approving safety cases

b) Specify clearly the procedures for reviewing and approving safety cases at different stages of their preparation

c) Select people who are in a suitable position to review and approve safety cases

d) Provide the relevant people with complete and current copies of the safety case along with all supporting information

e) Provide suitable communication systems to enable the effective use of review and approval procedures

f) Provide clear guidance to safety case authors on the requirements of the review and approval procedures

g) Provide opportunities for the safety case authors to present information during review and approval

h) Ensure that all the relevant stakeholders have sufficient time to review and approve the safety case

i) Confirm that the review and approval procedures comply with all relevant regulations

j) Ensure that the review and approval procedures will provide a suitable quality assurance mechanism for the safety cases

k) Comply with all relevant regulations and standards, and record all relevant actions and outcomes in the appropriate information systems

Knowledge and Understanding

Within the limits of your responsibility you must know and understand:

Communication and presentation methods

Hazard and risk assessment methods

Health and safety issues and requirements

Nuclear industry: types of facilities, materials, and processes

Organisational structures and procedures

Radiation: types, sources, and hazards

Review and approval procedures for safety cases

Safety case design and preparation

Stakeholder requirements

Statutory requirements, regulations, and standards, including international, national, and local

N317 Present nuclear safety cases for review and approval

Commentary

The main outcome of this activity is the presentation of nuclear safety cases during review and approval procedures.

This activity includes submitting the safety case for review or approval; providing copies and all relevant information; preparing the presentation; delivering the presentation, and responding to questions; monitoring the progress of the procedure, and obtaining confirmation.

This activity is likely to be undertaken by someone involved in preparing safety cases, either by managing them or by contributing technical content for them.

Performance Statements

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

a) Submit the safety case for review and approval according to the specified organisational procedures

b) Provide complete and current copies of the safety case for the review and approval procedures

c) Provide all required accompanying information to support the review and approval procedures

d) Select the methods and resources to be used for making the presentation

e) Select and collate the amount and type of information to present during the presentation

f) Deliver the presentation effectively to meet the requirements of those undertaking review and approval procedures

g) Respond to any questions raised, and refer any questions that cannot be answered to the appropriate person

h) Monitor the progress of the review and approval process

i) Obtain official confirmation and conditions of the approval of the safety case

j) Comply with all relevant regulations and standards, and record all relevant actions and outcomes in the appropriate information systems

Knowledge and Understanding

Within the limits of your responsibility you must know and understand:

Communication and presentation methods

Hazard and risk assessment methods

Health and safety issues and requirements

Nuclear industry: types of facilities, materials, and processes

Organisational structures and procedures

Presentation methods

Radiation: types, sources, and hazards

Review and approval procedures for safety cases

Safety case design and preparation

Stakeholder requirements

Statutory requirements, regulations, and standards, including international, national, and local

N318 Peer review nuclear safety cases during review and approval procedures

Commentary

The main outcome of this activity is the peer review of nuclear safety cases prepared by other people.

This activity includes obtaining all relevant information; checking that the evidence has been verified, and that the safety case complies with requirements; identifying any non-compliance or errors; providing information to stakeholders and feedback to the safety case author.

This activity is likely to be undertaken by someone involved in preparing safety cases, either by managing them or by contributing technical content for them.

Performance Statements

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

a) Obtain the correct version of the safety case

b) Identify the standards and regulatory requirements and any other critical aspects that are relevant to the safety case

c) Select appropriate methods for reviewing the safety case

d) Check that the evidence has been verified according to the standards required

e) Confirm the safety case's compliance with regulations and all relevant requirements

f) Highlight correctly any non-compliance and obtain clarification of the reasons for this

g) Identify correctly any factual errors, gaps, or significant deficiencies in the safety case

h) Provide information to relevant stakeholders according to the agreed time scale

i) Provide clear feedback to the safety case author on any amendments required for approval

j) Comply with all relevant regulations and standards, and record all relevant actions and outcomes in the appropriate information systems

Knowledge and Understanding

Within the limits of your responsibility you must know and understand:

Communication and presentation methods

Hazard and risk assessment methods

Health and safety issues and requirements

Human factors

Nuclear industry: types of facilities, materials, and processes

Organisational structures and procedures

Radiation: types, sources, and hazards

Review and approval procedures for safety cases

Safety case design and preparation

Stakeholder requirements

Statutory requirements, regulations, and standards, including international, national, and local

N319 Design training programmes for the implementation of nuclear safety cases

Commentary

The main outcome of this activity is the design of a training programme which will cover relevant aspects of implementing the requirements of nuclear safety cases.

This activity includes identifying the scope, purpose, and learning outcomes for the safety case training programme; planning the development and delivery of the training programme; assigning responsibility for delivering the training programme; presenting the programme to stakeholders; ensuring the training programme complies with all requirements.

This activity is likely to be undertaken by someone involved in implementing safety cases in a working environment in a nuclear facility.

Performance Statements

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

a) Identify the scope and purpose of the safety case training programme

b) Establish clear learning outcomes for the safety case training programme

c) Identify the activities and resources that are needed to develop and deliver the safety case training programme

d) Review the options for developing and delivering the safety case training programme

e) Establish the responsibilities for developing and delivering different parts of the safety case training programme

f) Present the safety case training programme to relevant stakeholders in a suitable format and with sufficient information for it to be evaluated

g) Ensure the safety case training programme complies with all relevant regulations and standards

h) Comply with all relevant regulations and standards, and record all relevant actions and outcomes in the appropriate information systems

Knowledge and Understanding

Within the limits of your responsibility you must know and understand:

Communication and presentation methods

Hazard and risk assessment methods

Health and safety issues and requirements

Nuclear industry: types of facilities, materials, and processes

Organisational structures and procedures

Radiation: types, sources, and hazards

Safety case design and preparation

Stakeholder requirements

Statutory requirements, regulations, and standards, including international, national, and local

Training and development methods

N320 Provide training for the implementation of nuclear safety cases

Commentary

The main outcome of this activity is the provision of training to different groups of workers, for implementing the requirements of nuclear safety cases.

This activity includes confirming the learning outcomes required by the safety case; selecting and delivering training methods; providing colleagues with learning opportunities; encouraging learners' development with constructive feedback; reviewing colleagues' development needs, and providing options for improving their performance.

This activity is likely to be undertaken by someone involved in implementing safety cases in a working environment in a nuclear facility.

Performance Statements

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

a) Confirm the learning outcomes required by the implementation of the safety case

b) Select appropriate training methods to deliver specific learning outcomes to colleagues

c) Ensure the training methods comply with all relevant regulations and guidelines for the implementation of the safety case

d) Deliver the training methods effectively in accordance with the requirements of the implementation of the safety case

e) Provide colleagues with suitable learning opportunities to enable them to improve their knowledge and understanding for the implementation of the safety case

f) Encourage colleagues to maintain their knowledge of the implementation of the safety case

g) Provide colleagues with constructive feedback on their performance during the training

h) Review the development needs of colleagues at regular intervals

i) Provide colleagues who are not able to improve their performance with suitable options

j) Comply with all relevant regulations and standards, and record all relevant actions and outcomes in the appropriate information systems

Knowledge and Understanding

Within the limits of your responsibility you must know and understand:

Communication and presentation methods

Hazard and risk assessment methods

Health and safety issues and requirements

Nuclear industry: types of facilities, materials, and processes

Organisational structures and procedures

Radiation: types, sources, and hazards

Safety case design and preparation

Stakeholder requirements

Statutory requirements, regulations, and standards, including international, national, and local

Training and development methods

N321 Provide information and advice on nuclear safety cases

Commentary

The main outcome of this activity is the provision of information and advice on nuclear safety cases.

This activity includes identifying those who require information and advice; providing relevant information and advice; presenting and disseminating information and advice; responding to questions, and referring people on to other authoritative sources.

This activity is likely to be undertaken by someone involved in preparing safety cases, either by managing them or by contributing technical content for them.

Performance Statements

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

a) Respond to the stakeholders who need to be provided with information and advice on any aspect of the safety case

b) Collate information on the safety case that is suitable to the needs of stakeholders

c) Disseminate information and advice on the safety case to relevant people

d) Discuss with stakeholders the amount, type, and sources of information and advice which they have already accessed

e) Identify sources of information and advice that stakeholders can access to increase their understanding of the safety case and to make informed decisions

f) Provide information and advice that is relevant to stakeholders' requirements, and ensure it is as accurate as possible

g) Respond to any questions raised, and refer any questions that cannot be answered to the appropriate person

h) Comply with all relevant regulations and standards, and record all relevant actions and outcomes in the appropriate information systems

Knowledge and Understanding

Within the limits of your responsibility you must know and understand:

Communication and presentation methods

Hazard and risk assessment methods

Health and safety issues and requirements

Nuclear industry: types of facilities, materials, and processes

Organisational structures and procedures

Radiation: types, sources, and hazards

Safety case design and preparation

Sources of authoritative information on safety cases

Stakeholder requirements

Statutory requirements, regulations, and standards, including international, national, and local

N322 Monitor compliance with nuclear safety cases

Commentary

The main outcome of this activity is the monitoring of compliance with nuclear safety cases.

This activity includes confirming the scope of the safety case; identifying a monitoring method and applying it; obtaining information to assist the evaluation of the safety case; evaluating whether the safety case is achieving its objectives, and identifying any problems.

This activity is likely to be undertaken by someone involved in preparing safety cases, either by managing them or by contributing technical content for them.

Performance Statements

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

a) Confirm the scope of the safety case that is being monitored

b) Establish criteria for evaluating compliance with the safety case

c) Identify a suitable monitoring method for ensuring compliance with the safety case

d) Monitor compliance with the safety case at suitable opportunities

e) Obtain information to assist in the evaluation of compliance with the safety case

f) Ensure that compliance with the safety case also accords with all relevant regulations and guidelines

g) Ensure that any problems with compliance with the safety case are identified and resolved promptly

h) Evaluate the extent to which the safety case is achieving its objectives

i) Comply with all relevant regulations and standards, and record all relevant actions and outcomes in the appropriate information systems

Knowledge and Understanding

Within the limits of your responsibility you must know and understand:

Communication and presentation methods

Hazard and risk assessment methods

Health and safety issues and requirements

Nuclear industry: types of facilities, materials, and processes

Organisational structures and procedures

Radiation: types, sources, and hazards

Safety case design and preparation

Stakeholder requirements

Statutory requirements, regulations, and standards, including international, national, and local

N323 Review nuclear safety cases during operation

Commentary

The main outcome of this activity is the review of nuclear safety cases after they have been implemented.

This activity includes confirming the scope of the safety case; identifying a suitable time for a review; developing criteria for the evaluation of the safety case; applying analysis methods; considering the results, and recommending changes.

This activity is likely to be undertaken by someone involved in preparing safety cases, either by managing them or by contributing technical content for them.

Performance Statements

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

a) Identify the scope and purpose of the existing safety case

b) Establish an appropriate time for the review of the safety case to be conducted

c) Consult with all key stakeholders on their views of the safety case

d) Assess how far the standards and requirements used in the safety case compare with the current versions

e) Develop criteria for evaluating the safety and effectiveness of the safety case

f) Obtain information to assist in the evaluation of the safety case

g) Apply appropriate analysis methods to determine the safety and effectiveness of the safety case

h) Consider the results of the review of the safety case against ALARP principles

i) Recommend changes to the safety case which will lead to greater safety and effectiveness

j) Inform the organisation of the recommendations for the safety case

k) Comply with all relevant regulations and standards, and record all relevant actions and outcomes in the appropriate information systems

Knowledge and Understanding

Within the limits of your responsibility you must know and understand:

ALARP principles

Communication and presentation methods

Hazard and risk assessment methods

Health and safety issues and requirements

Nuclear industry: types of facilities, materials, and processes

Organisational structures and procedures

Radiation: types, sources, and hazards

Safety case design and preparation

Stakeholder requirements

Statutory requirements, regulations, and standards, including international, national, and local