



Australian Government

PSPRAD010 Apply radiation safety knowledge to develop and implement ionising radiation management plans

Release: 1

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Modification History

Release	Comments
1	This unit was released in PSP Public Sector Training Package release 1.0 and meets the Standards for Training Packages. This unit supersedes and is equivalent to PSPRAD710A Apply radiation safety knowledge to develop and implement ionising radiation management plans. • Unit code updated • Content and formatting updated to comply with the new standards • All PC transitioned from passive to active voice

Application

This unit describes the skills required to develop and implement a radiation management plan to ensure the protection of workers, public and the environment, including emergency response. It includes ensuring adequate provision of training for all personnel and developing and sustaining a radiation safety culture to ensure that legislative and organisational requirements are met.

This unit applies to personnel primarily responsible for organisation-wide radiation safety within their organisation. They may work as the radiation safety officer.

The skills and knowledge described in this unit must be applied within the legislative, regulatory and policy environment in which they are carried out. Organisational policies and procedures must be consulted and adhered to.

Those undertaking this unit would work autonomously, performing sophisticated tasks in familiar contexts.

No licensing, legislative or certification requirements apply to unit at the time of publication.

Competency Field

Radiation Safety

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions section.
1. Analyse the requirements for a radiation management plan	1.1 Confirm radiation protection and safety requirements detailed in radiation management plan by reviewing relevant radiation protection and safety legislation, standards, codes and guidelines. 1.2 Review relevant, available records and information about hazards due to radioactive materials, equipment and work activities of the organisation. 1.3 Identify known and potential hazards associated with current or future radiation-related work activities. 1.4 Procure radiation instruments and monitoring equipment and locate measuring or survey procedures to quantify hazards. 1.5 Quantify radiation hazards and anticipated exposure/dose, and compare results with relevant limits. 1.6 Source information and make recommendations about relevant radiation control measures, safety procedures, radiation monitoring programs and personal protective equipment (PPE). 1.7 Undertake organisational risk assessment in relation to ionising radiation safety.
2. Develop and/or revise organisational radiation protection program	2.1 Identify organisational compliance against radiation safety requirements, including organisational policy and approach, and review organisation's procedures for developing or revising radiation protection policy, procedures and plans. 2.2 Identify critical groups potentially affected by radiation practices conducted by whole of organisation, including workers, the public and the environment. 2.3 Undertake critical group analysis and cost-benefit analysis component of radiation management plan to identify key performance indicators. 2.4 Design or amend radiation management plans to control and monitor radiation-related work activities conducted by the organisation and comply with regulator requirements. 2.5 Submit radiation management plans to the responsible person for approval. 2.6 Design a strategy for implementing the new/revised organisational radiation management plans that identifies key people, recommended approaches and resources available. 2.7 Distribute plans to relevant personnel and confirm they understand their roles and responsibilities.

	2.8 Identify organisational key performance indicators for radiation safety performance measurement and negotiate targets for these indicators. 2.9 Develop and implement quantitative risk management/risk assessment tools for radiation.
3. Ensure organisational radiation protection and monitoring systems are implemented effectively	3.1 Ensure all personnel understand their roles and responsibilities under the new or revised authorised radiation management plans. 3.2 Ensure information about radiation protection and monitoring equipment and procedures is provided to relevant personnel. 3.3 Ensure that prescribed radiation signs and safety communication systems, including noticeboards, are maintained in good condition and are readily visible. 3.4 Approve appropriate audit plans and audit tools. 3.5 Ensure audits of radiation protection and monitoring systems, equipment and safety performance are conducted in accordance with agreed audit plans. 3.6 Analyse audit information to identify non-conformances and opportunities for improvements and provide recommendations to the licensee or responsible person on non-compliance and opportunities for improvement. 3.7 Ensure all findings, actions and outcomes are documented in accordance with regulator requirements and organisational procedures.
4. Investigate and rectify organisational safety, quality and non-compliance issues	4.1 Review atypical dose results with reference to radiation safety key performance indicators. 4.2 Examine any defect or changes in work practice, equipment or hazards that could increase exposure of personnel or present an environmental risk at organisational or systemic level and determine appropriate controls. 4.3 Analyse instances of potential or actual non-compliance and redesign work practices or procedures to prevent recurrence. 4.4 Approve and implement changes in work practices to further improve the organisation's radiation protection and monitoring systems. 4.5 Maintain records of all actions and outcomes.
5. Inform the licensee about radiation protection and safety	5.1 Review status reports, including details of instances of potential or actual non-compliance or incidents or accidents and actions taken. 5.2 Review information about the adequacy of radiation management plans and protection and monitoring systems, and recommend improvements. 5.3 Procure significant equipment purchases. 5.4 Authorise corrective and preventative actions in accordance with

	organisational procedures and regulator requirements. 5.5 Engage external radiation specialists.
6. Promote a radiation safety culture	6.1 Implement mechanisms to ensure the competency of personnel to safely undertake specific radiation-related work activities, and make recommendations to the responsible person. 6.2 Review organisation's learning and development strategies and needs regularly to ensure they meet organisational and regulator requirements. 6.3 Actively promote the need to make doses as low as reasonably achievable consistent with legislation, and organisational policy and procedures.
7. Establish information management systems about radiation protection and safety	7.1 Specify all information that must be recorded and secured, and advise relevant personnel. 7.2 Maintain required records that are complete, accurate and legible. 7.3 Control access to records in accordance with organisational procedures. 7.4 Provide reports in accordance with regulator requirements and organisational procedures. 7.5 Maintain and secure records, and resolve problems in record management promptly. 7.6 Regularly review the organisation's training requirements in radiation protection/safety, workplace emergency response and environmental protection, taking into account the needs of stakeholders.
8. Respond to potential or actual radiation incidents or accidents	8.1 Respond to potential radiation incidents, which may include unusual situations, unexpected hazards, or potential or actual emergency incidents. 8.2 Inform relevant personnel about the situation, hazard or incident. 8.3 Assist emergency response personnel to control the situation.

Foundation Skills

Foundation skills are embedded within the elements and performance criteria of this unit.

Unit Mapping Information

This unit supersedes and is equivalent to PSPRAD710A Apply radiation safety knowledge to develop and implement ionising radiation management plans.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bebbece7-ff48-4d2c-8876-405679019623>

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Assessment Requirements for PSPRAD010 Apply radiation safety knowledge to develop and implement ionising radiation management plans

Modification History

Release	Comments
1	These Assessment Requirements were released in PSP Public Sector Training Package release 1.0 and meet the Standards for Training Packages. Assessment Requirements created drawing upon specified assessment information from superseded unit

Performance Evidence

Evidence required to demonstrate competence must satisfy all of the requirements of the elements and performance criteria. If not otherwise specified the candidate must demonstrate evidence of performance of the following on at least one occasion.

- sourcing and analysing new and existing information regarding radiation protection, legislation, standards, codes and guidelines
- reviewing and implementing appropriate controls for organisation-wide radiation hazards
- reviewing and implementing controls to minimise the risks of radiation hazards for practices within the control of the responsible person
- ensuring that the legislative responsibilities of the licensee are fulfilled
- implementing radiation safety and related policies, procedures and practices
- ensuring that audits are consistent with organisational policies and procedures
- identifying and procuring radiation sources and equipment
- reviewing and making recommendations in relation to monitoring surveys and data analysis
- providing advice, authorising reports and making decisions within scope of authority
- explaining radiation protection and safety issues, safe working rules and recommended procedures to other personnel
- reviewing training needs in radiation protection and safety, workplace emergency response and environmental protection

Knowledge Evidence

Evidence required to demonstrate competence must satisfy all of the requirements of the elements and performance criteria. If not otherwise specified the depth of knowledge demonstrated must be appropriate to the job context of the candidate.

- ionising radiation, radioactivity, radioactive material, NORM, contamination, contamination controls, concentration, shielding, half-life, radionuclide, transport index, safe distance, and weighting factor
- types and properties of ionising radiation sources and shielding methods
- radiation quantities, including exposure, dose, effective dose, dose rate, dose equivalent, and dose limits
- exposure pathways and protective measures
- signs and symptoms of radiation exposure, radiation health effects, and deterministic and stochastic effects
- international system (SI) of units for radiation quantities
- function of key components, set-up and calibration checks, and operating principles of radiation instruments, dosimeters and equipment
- detailed requirements of relevant legislation, codes, guidelines and safety procedures for working with radiation sources/equipment
- health and safety and workplace emergency response procedures for radiation-related work activities in organisation
- types of PPE for personnel working in ionising radiation environments and the recommended selection process
- potential adverse health and performance effects of wearing PPE while working in potentially hazardous environments
- principles and techniques for decontamination of personnel and equipment
- techniques and procedures for collecting potentially radioactive samples
- techniques for assessing radiation hazards likely to be encountered in organisation
- techniques for conducting contamination surveys
- techniques for control, containment and confinement of radiation sources/equipment encountered by organisation
- environment, health and safety policy and procedures of the organisation, particularly how different parts of occupational hygiene system are interdependent, including ventilation, noise, radiation and chemicals
- working knowledge of the business activities and operations conducted at the organisation's sites and the associated radiation risks
- critical group analysis, cost-benefit analysis and assessment processes to develop cost effective radiation protection programs
- sources of industry information and information from relevant professional bodies to maintain currency

Assessment Conditions

This unit contains no specific industry-mandated assessment conditions. Guidance on suggested and recommended conditions and methods can be found in the Implementation Guide.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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