Australian Government

Assessment Requirements for PSPRAD009 Select, commission and maintain radiation measuring instruments

Release: 1

Assessment Requirements for PSPRAD009 Select, commission and maintain radiation measuring instruments

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 • Assessment Requirements created drawing upon specified assessment information from superseded unit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.

- Recognising types of measuring instruments and the advantages and limitations of their use, including at least one of:
  - air proportional
  - gas proportional
  - gas ionisation
  - Geiger-Muller (GM)
  - compensated GM
  - scintillation
  - neutron monitors
  - solid state
  - personal dosimeters (badge and electronic)
- locating, interpreting and comparing information about measuring instruments used by organisation
- selecting suitable instruments by analysing factors, including at least one of:
  - intended use (fixed/portable, laboratory/field)
  - range of radiation types
  - intensities and energies
  - accuracy
  - sensitivity
  - response time
  - robustness

  - serviceability
  - limitations
- conducting pre-use and calibration checks, troubleshooting common faults, conducting basic repairs of and maintaining radiation measuring instruments
- safely operating radiation measuring instruments to obtain reliable data
- processing and analysing radiation measurement data and applying established corrections
- interpreting manuals and writing operating instructions for radiation measuring instruments

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, activity, dose, contamination, contamination controls, shielding, half-life, and radionuclide
- operating voltage, accuracy, response time, sensitivity, detection limit, linearity, source-detector geometry and distance corrections, compensation
- types, energies and properties of ionising radiation, sources and shielding methods
- radiation quantities, including exposure, dose, tissue weighting factor, effective dose, dose rate, radiation weighting factor, dose equivalent, and dose limits
- international system (SI) of units for radiation quantities, multiples and sub-multiples
- techniques for conducting measurements and monitoring surveys
- characteristics, capabilities, limitations, function of key components and operating principles of radiation measuring instruments
- role and importance of regular calibration and pre-use checks and maintenance
- common instrument faults, troubleshooting, and recommended remedial actions and repairs
- common instrument operator errors
- techniques for assessing radiation hazards likely to be encountered in job role
- guidelines and safety procedures for working with radiation sources, based on principles of:
  - reducing exposure time
  - maintaining greatest distance
  - using as much shielding as possible
- health, safety and workplace emergency response procedures relevant to job role

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.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bebbece7-ff48-4d2c-8876-405679019623

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bebbece7-ff48-4d2c-8876-405679019623

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bebbece7-ff48-4d2c-8876-405679019623