



Australian Government

Assessment Requirements for UEERA0028 Determine noise and vibration encountered in HVAC/R applications

Release: 1

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Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions on at least one occasion and include:

- identifying the dynamic characteristics of systems/materials and the effects due to different operating parameters
- using established measurement methods
- taking relevant measurements accurately
- interpreting measured values appropriately
- providing correct interpretation of data taken from measurements and calculations
- dealing with unplanned events
- applying problem solving procedures including using appropriate theorems
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements and workplace procedures and practices, including using risk control measures
- applying sustainable energy principles and practices
- determining noise and vibration encountered in heating, ventilation and air conditioning/refrigeration (HVAC/R) applications.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions and include knowledge of:

- noise and vibration fundamentals, safe working practices and relevant standards, codes and regulations, including:
 - fundamentals of sound:
 - properties of sound: wavelength, amplitude, frequency, period, velocity, sound (intensity, pressure and power) and decibels
 - sound pressure level
 - sound power level
 - addition of sound levels
 - loudness and weighting networks

- sound spectrum and octave bands
- single value representation of sound spectrum
- noise rating (NR) curves
- sound meters
- fundamentals of vibration:
 - terminology: spring-mass system, spring in series and/or parallel, stiffness, effective stiffness, viscous frictional coefficient, mass, period, frequency (angular, natural, damped and forced), amplitude, static deflection, damping ratio, damping factor and frequency ratio
 - simple harmonic motion (SHM)
 - damped vibration
 - forced vibration
 - maximum amplitude and resonance
 - transmissibility and isolation efficiency
 - vibration isolators
- relevant HVAC/R manufacturer specifications
- relevant job safety assessments or risk mitigation processes
- relevant techniques, processes or measurement methods to obtain sound, noise and vibration data, including problem-solving procedures and appropriate theorems
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume implementation guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>