



Australian Government

Assessment Requirements for MSL905003 Create or modify automated calibration procedures

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MSL905003A Create or modify automated calibration procedures

Performance Evidence

Evidence of competence in this unit must satisfy all of the requirements of the elements and performance criteria, and include demonstration of:

- creating, editing, testing and documenting at least one (1) computer controlled calibration procedure
- following all relevant safety procedures
- assessing the suitability of software controlled calibration procedures
- researching current, alternative calibration methods and equipment
- developing or modifying calibration procedures to automate processes
- writing efficient calibration procedures using an unambiguous, logical sequence of instructions that meet statutory and regulatory requirements
- writing or editing efficient software programs for at least three (3) calibration applications and assessing their integrity under test
- applying specialised technical knowledge to critically analyse and resolve complex problems associated with measurement non-conformances where solutions are not obvious or readily available
- explaining automated calibration procedures to clients and clarifying their requirements
- conducting reliable calibration/testing trials to ensure a high degree of reproducibility
- liaising with peers and technical staff from other laboratories to clarify and validate automated procedures
- estimating measurement uncertainty and applying statistical techniques for analysing test and/or calibration data
- critically examining each calibration step to ensure repeatability and validity of data
- preparing all test documentation accurately, concisely and in accordance with requirements
- recognising and reporting opportunities for improvements.

Knowledge Evidence

Must provide evidence that demonstrates knowledge of:

- requirements for the competence of testing and calibration laboratories (e.g. AS ISO/IEC 17025) as they affect job role and responsibilities
- limits of authority and procedures for creating or modifying automated calibration procedures
- structure and terminology used in standard calibration methods, procedures, requests and instructions
- current automated calibration methods, procedures and technology applications used in laboratory
- computer operation/automation using graphical user interfaces
- equipment specifications and limitations and the implications of equipment substitution
- equipment and testing method troubleshooting procedures
- the hierarchy of reference materials
- handling, transport, storage and operation of reference and working standards
- calculation procedures to give results in appropriate accuracy, precision and units
- methods for statistical analysis (means, ranges and standard deviations) and estimation of uncertainty of measurement (may include the use of software)
- workplace procedures and legislative requirements for documenting calibration procedures
- workplace and/or legal traceability requirements
- work health and safety (WHS) and laboratory environmental control requirements.

Additional knowledge requirements relevant to the workplace context that apply for different calibration fields must be assessed, including testing and calibration conducted in the following fields:

- acoustic and vibration measurement
- chemical testing
- construction materials testing
- electrical testing
- heat and temperature measurement
- mechanical testing
- metrology
- non-destructive testing
- optics and radiometry
- pressure testing.

Assessment Conditions

- Judgement of competence must be based on holistic assessment of the evidence. Assessment methods must confirm consistency of performance over time, rather than a single assessment event.
- This unit of competency is to be assessed in the workplace or a simulated workplace environment. A simulated workplace environment must reflect realistic operational workplace conditions that cover all aspects of workplace performance, including the environment, task skills, task management skills, contingency management skills and job role environment skills.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- 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.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept in each case).
- This unit of competency may be assessed with:
 - MSL925001 Analyse data and report results
 - MSL925002 Analyse measurements and estimate uncertainties.
- Holistic assessment methods include:
 - review of documented automated procedures modified or developed by the candidate and associated validation data
 - feedback from supervisors and/or customers regarding quality of automated procedures developed or modified by the candidate
 - observation of the candidate trialling automated procedures as part of their development
 - oral or written questioning to check required knowledge of automated procedures, calibration software and programming techniques used in the laboratory.
- Access is required to instruments, equipment, materials, workplace documentation, procedures and specifications associated with this unit, including, but not limited to:
 - specialised calibration/test equipment, reference standards and materials and laboratory facilities
 - access to a library of calibration methods, procedures and equipment specifications
 - laboratory calibration software and programs and manufacturer's proprietary software
 - workplace quality manual and procedures.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competence and currency.
- Technical competence can be demonstrated through:
 - relevant VET or other qualification/Statement of Attainment AND/OR
 - relevant workplace experience.
- Currency can be demonstrated through:
 - performing the competency being assessed as part of current employment OR
 - having consulted with a laboratory about performing the competency being assessed within the last twelve months.

Links

MSA Training Package Implementation Guides - <http://mskills.org.au/training-packages/info/>