



Australian Government

MSL905006 Create or modify automated calibration procedures

Release: 1

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Modification History

Release	Comments
Release 1	This version was released in <i>MSL Laboratory Operations Training Package Release 2.0</i>. Supersedes and equivalent to MSL905003 Create or modify automated calibration procedures. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Application

This unit of competency describes the skills and knowledge to create, edit, test and document computer controlled calibration procedures for test and measurement instruments. This may be in response to the introduction of alternative or new equipment, changing test circumstances, activities involved in research and development trials or to meet client needs. The unit covers performance of automated, including computer-aided, calibrations as well as the programming and control of automated calibration systems.

This unit applies to calibration technicians/specialists who carry out tests and/or calibrations in first, second and third-party laboratories, and laboratories where testing and/or calibration forms part of inspection or product certification. They require a substantial, in-depth technical knowledge across a broad spectrum of advanced calibration practices and technologies, including a thorough understanding of equipment specifications and proprietary software writing skills. They are authorised by their laboratory to create or modify calibration procedures. They work with limited guidance and results of their work are checked by the laboratory manager, quality inspector or designated signatory.

No licensing or certification requirements exist at the time of publication. However, regulations and/or external accreditation requirements for laboratory operations exist, so local requirements should be checked. Relevant legislation, industry standards and codes of practice within Australia must also be applied.

Pre-requisite Unit

MSL905005 Create or modify calibration procedures

Competency Field

Calibration

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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|---|---|---|
| 1 | Assess the suitability of available automated procedures | 1.1 Determine the technical and quality deficiencies of the current automated calibration procedure
1.2 Research alternative established procedures
1.3 Establish whether an available procedure can be customised or if a new procedure is needed
1.4 Obtain internal approval to develop an automation plan and strategy
1.5 Identify the resources required for automation and verify they meet necessary quality, laboratory and technical requirements |
| 2 | Create or edit automated procedure | 2.1 Identify and document all relevant calibration data to be collected, including parameters and ranges to be tested
2.2 Check that instructions are adequately documented to ensure repeatability of test
2.3 Document hazards and safety measures to be observed
2.4 List the requirements for calibration approval and rejection
2.5 Specify data to be recorded and produce a results template
2.6 Edit or compile the procedure using appropriate software
2.7 Confirm that all calibration requirements can be fulfilled by using the procedure
2.8 Test run the program, check errors and debug as necessary |
| 3 | Configure instruments/equipment | 3.1 Use the appropriate personal protective equipment (PPE), safety equipment and procedures
3.2 Configure workstation, reference standards, instruments |

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	and equipment
	3.3 Verify performance of reference standards, instruments and equipment prior to use and adjust or calibrate as necessary
	3.4 Identify and minimise potential sources of measurement error
4 Refine the automated procedure	4.1 Run automated procedure to confirm functionality of all steps
	4.2 Recognise non-conforming results or data and amend the program or troubleshoot procedure/equipment as necessary
	4.3 Verify all data are the result of valid measurements and all calculations are correct
	4.4 Confirm the integrity of procedure at each step to ensure repeatability of measurement
5 Verify automated procedure is fit for purpose	5.1 Generate a calibration report and compare results achieved with other methods
	5.2 Systematically analyse all measurement and environmental factors that may influence results and take corrective action
	5.3 Quantify the uncertainties of results by analysing equipment specifications and test methodology
	5.4 Arrange for internal peer checking of procedure, data and results and incorporate feedback
	5.5 Confirm the procedure is fit for purpose and relevant to the client's needs and document
6 Document and review automated procedure	6.1 Ensure that the procedure is written in accordance with workplace procedures or statutory and regulatory requirements

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 6.2 Ensure that the procedure has been reviewed in accordance with workplace procedures
- 6.3 Report and present the procedure to appropriate personnel for validation before use

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Equivalent to MSL905003 Create or modify automated calibration procedures, Release 1.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa>