



Australian Government

MSL977011 Troubleshoot equipment and/or production processes

Release: 1

MSL977011 Troubleshoot equipment and/or production processes

Modification History

Release 1. Supersedes and equivalent to MSL977007 Troubleshoot equipment and/or production processes. Minor changes to Application and Performance Criteria.

Application

This unit of competency describes the skills and knowledge to apply technical, instrumental and equipment knowledge and skills to troubleshoot testing equipment and/or testing issues related to production processes. It includes identifying problems and recommending corrective action.

This unit applies to senior technical officers, laboratory supervisors and technical specialists working in all industry sectors. All operations must comply with relevant standards, appropriate procedures and/or workplace requirements. Troubleshooting is the process of using technical knowledge and skills to investigate abnormal performance and assay results. This unit of competency includes troubleshooting testing equipment and/or testing issues related to production processes.

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

Nil

Competency Field

Testing

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Identify abnormal equipment and/or process performance	1.1 Determine whether testing equipment is operating to manufacturer specifications from available workplace information 1.2 Recognise whether equipment outputs are consistent with normal operation 1.3 Identify signs of equipment degradation and possible failure

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	1.4 Inspect equipment outputs to determine nature of the problem 1.5 Define nature of substandard performance
2. Identify causes of substandard performance	2.1 Select appropriate technical process for investigation 2.2 Identify causes using fact-finding processes 2.3 Review maintenance records to ensure that system does not need simple maintenance 2.4 Review calibration records to ensure system is within calibration 2.5 Confirm that the appropriate test procedure, materials and equipment were used 2.6 Conduct performance tests as appropriate to investigation 2.7 Analyse equipment and/or testing variables to develop list of possible causes 2.8 Isolate causes using appropriate elimination techniques
3. Recommend corrective action	3.1 Propose and trial corrective action based on investigation 3.2 Monitor trial data to ensure outputs are consistent with normal operation 3.3 Review trial results to confirm validity of corrective action 3.4 Maintain records in accordance with workplace procedures 3.5 Submit report that summarises investigation and provides recommendations

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

Supersedes and is equivalent to MSL977007 Troubleshoot equipment and/or production processes.

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>

Assessment Requirements for MSL977011 Troubleshoot equipment and/or production processes

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Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- troubleshoot at least 2 different pieces of testing equipment and/or testing issues related to production processes, to identify causes of problems and recommended corrective actions.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- principles and concepts that underpin operation of testing equipment and test methods
- overall characteristics, capabilities and limitations of testing equipment and its components
- functions of key equipment components and sub-systems and effects on outputs and results of modifying variables
- possible effects of matrix and impurities on analytical methods
- effects on outputs and results of varying test procedure and/or modifying test materials or reagents
- troubleshooting procedures and elimination techniques for isolating causes of problems
- mathematical and statistical procedures for evaluating test data
- workplace requirements for problem investigation and reporting
- awareness of environmental sustainability issues as they relate to the work task
- legal, ethical and work health and safety (WHS) requirements specific to the work task.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
 - a standard laboratory equipped with appropriate equipment, samples, reagents and test methods
 - performance data, calibration and maintenance records relevant to investigation
 - workplace procedures.

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

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