Australian Government

MSL977002 Troubleshoot equipment and/or production processes

Release: 1

INDUSTRY
SKILLS
COUNCILS
Creating Australia's Future

MSL977002 Troubleshoot equipment and/or production processes

Modification History

Release 1. Supersedes and is equivalent to MSL977002A Troubleshoot equipment and/or production processes

Application

This unit of competency covers the ability to apply technical, instrumental and equipment knowledge and skills to troubleshoot testing equipment and testing issues related to production processes, identify problems and recommend corrective action.

This unit of competency is applicable 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 testing issues related to production processes. In the case of chromatography, for example, these problems may be related to materials, such as laboratory solvents, procedures or equipment components, such as columns, injectors, pumps and detectors.

While no specific licensing or certification requirements apply to this unit at the time of publication, laboratory operations are governed by relevant legislation, regulations and/or external accreditation requirements. Local requirements should be checked.

Pre-requisite Unit

Nil

Competency Field

Testing

Unit Sector

Elements and 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
		1.2	Recognise whether equipment outputs are consistent with normal operation
		1.3	Identify signs of equipment degradation and impending failure
		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, including interviews with appropriate personnel
		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	Verify 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

     Manufacturing Skills Australia

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 workplace records as required
		3.5	Submit report summarising investigation and 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.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Standards, codes, procedures and/or workplace requirements	Standards, codes, procedures and/or workplace requirements include the latest version of one or more of:

- Australian and international standards covering the requirements for the competence of testing and calibration laboratories, laboratory safety, quality and environmental management systems, and measurement management systems
- national work health and safety (WHS) standards and codes of practice, and national measurement regulations and guidelines
- Australian and international standards and guidelines covering specialised analysis, accuracy of measurement methods and results, expression of uncertainty, quantifying uncertainty, Association of Analytical Communities International (AOAC International) Official Methods of Analysis, and Validation of Analytical Procedures
- specific codes, guidelines, procedures and methods, such as National Association of Testing Authorities (NATA) accreditation programs requirements, Australian code of good manufacturing practice for medicinal products (GMP), principles of good laboratory practice (GLP), Food Standards Australia New Zealand (FSANZ) Code, Australian Dangerous Goods Code, gene technology regulations, National Health and Medical Research Council (NHMRC) Guidelines, and Therapeutic Goods Regulations
- workplace documents, such as standard operating procedures (SOPs); quality and equipment manuals; calibration and maintenance schedules; material safety data sheets (MSDS) and safety procedures; material, production and product specifications; production and laboratory schedules; workplace recording and reporting procedures; waste minimisation and safe disposal procedures; cleaning, hygiene and personal hygiene requirements; stock records and inventory
- sampling procedures (labelling, preparation, storage, transport and disposal)
- test procedures (validated and authorised)

WHS and environmental management requirements	WHS and environmental management requirements include:

- complying with WHS and environmental management requirements at all times, which may be imposed through state/territory or federal legislation. These requirements must not be compromised at any time

- applying standard precautions relating to the potentially hazardous nature of samples
- accessing and applying current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health, where relevant

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSL977002A Troubleshoot equipment and/or production processes

Links

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