



Australian Government

MSL974027 Monitor performance of structures

Release: 1

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Modification History

Release	Comments
Release 1	<p>This version was released in <i>MSL Laboratory Operations Training Package Release 2.0</i>.</p> <p>Supersedes and equivalent to MSL974013 Monitor performance of structures. Foundation skill information added. Range of conditions removed. Assessment requirements amended.</p>

Application

This unit of competency describes the skills and knowledge to monitor civil engineering structures (such as roads, dams, embankments, open cut faces, bridges, tunnels, towers and other concrete/steel erections) to measure their performance, confirm design parameters or measure the effects of improvements or rehabilitation. The unit involves confirming the requirements of the monitoring activities, liaising with site personnel, performing monitoring activities, setting up monitoring equipment, collecting reliable data and reporting results. Personnel are also expected to interpret results in the field, recognise/rectify obvious errors or unexpected results and troubleshoot common problems.

This unit applies to laboratory personnel working in the geotechnical, construction material testing, civil engineering and mining industry sectors.

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

MSL973021 Conduct field-based acceptance tests for construction materials

Competency Field

Testing

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
<p>1 Confirm requirements for monitoring activities</p>	<p>1.1 Review job request to confirm the purpose and objectives of monitoring activities with supervising staff</p> <p>1.2 Review emergency plans, site hazards, risk assessments, safe work procedures and environmental requirements, associated with the monitoring activities and site requirements</p> <p>1.3 Review any available data from previous monitoring at the site to identify expected values and any trends in results</p> <p>1.4 Liaise with client to arrange site access, confirm timing and clarify the need for permits, induction training or any other special requirements</p> <p>1.5 Confirm details of monitoring instruments to be used, parameters to be measured and the data formats required by users</p>
<p>2 Prepare for monitoring activities</p>	<p>2.1 Complete all administrative requirements and obtain appropriate approvals/permits</p> <p>2.2 Make appropriate travel arrangements to and from the site, as required</p> <p>2.3 Assemble all required instruments, equipment and supplies and check that they are fit for purpose</p> <p>2.4 Stow monitoring instruments, equipment and supplies to ensure their safe transport</p> <p>2.5 Liaise with appropriate personnel on arrival at site to ensure safety and minimise disruption to other workers during monitoring</p> <p>2.6 Complete site induction as necessary</p>
<p>3 Collect and verify monitoring data</p>	<p>3.1 Use barriers and signage to control access to work area in accordance with workplace safety procedures</p>

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	3.2 Perform pre-use checks of instruments and trial measurements to ensure they are operating within specifications
	3.3 Identify location for monitoring in accordance with work instructions and/or test method
	3.4 Operate instruments safely and in accordance with work instructions, test method, and/or manufacturer specifications
	3.5 Take sufficient measurements to ensure that data meets quality requirements
	3.6 Recognise obvious errors or atypical data and take appropriate corrective actions
	3.7 Recognise and record/photograph details of site conditions that may impact on data quality
	3.8 Seek advice to deal with any situation beyond own technical competence
4 Finalise monitoring activities	4.1 Remove signage and barriers and reinstate all disturbed surfaces in accordance with workplace procedures
	4.2 Ensure all data is stored safely before shutdown of instrument/equipment
	4.3 Clean all instruments and equipment (and vehicle as necessary) to avoid environmental damage, including stormwater run-off and/or transfer of pests
	4.4 Check that all instruments, equipment and supplies are present and undamaged before re-stowing them for safe transport
	4.5 Notify appropriate site personnel on completion of monitoring activities and prior to leaving site
	4.6 On return to base, check serviceability of instruments and equipment before storage
	4.7 Download data into laboratory/workplace information management system in accordance with workplace

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	procedures
	4.8 Complete site safety plans, instrument/equipment logs and test reports in accordance with workplace procedures
	4.9 Notify supervising staff on completion of activities
	4.10 Report any significant issues arising from monitoring activities to appropriate personnel
5 Maintain a safe work environment	5.1 Use safe work procedures and personal protective equipment (PPE) to ensure personal safety and that of others
	5.2 Minimise environmental impacts of monitoring activities and generation of waste
	5.3 Collect and/or dispose of all waste in accordance with environmental/quarantine requirements and workplace procedures

Foundation Skills

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

- Numeracy skills to estimate and calculate simple scientific quantities, such as stress, strain and pressure.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Equivalent to MSL974013 Monitor performance of structures, 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>

