



Australian Government

Assessment Requirements for MEM23118

Apply production and service control techniques

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MEM23118A Apply production and service control techniques.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include:

- identifying work health and safety (WHS) and regulatory requirements, risk management and related organisational procedures
- determining measurable and controllable parameters of product or service
- determining acceptable variation of production or service parameters
- using manual and automatic methods for measurement, data gathering and analysis
- applying software and control chart techniques for statistical process control (SPC), performance analysis and graphical representations on at least two occasions, including generating histograms, Pareto diagrams, flowcharts, tally charts, scatter plots and/or run charts from production or measurable service data
- applying sampling plans to products on at least two occasions to review production and service functions in order to recommend or make process improvements that are based on statistical analyses
- reporting and documenting results in accordance with procedures.

Note: Where a volume and/or frequency is not specified, demonstration must be provided at least once.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- process control
- production performance indicators
- process capability including:
 - capable processes definition
 - upper, lower and target specification limits
 - in-control
 - out-of-control, assignable causes and trends
 - corrective action plans including Western Electric, Wheeler or Nelson rules
 - capability indices
 - sample estimators

- confidence intervals for indices and chi square distribution
- role of production or process control in supporting lean processes including:
 - value stream management
 - standardised work
 - demand pull
 - just-in-time (JIT)
 - process levelling
 - cycle time
 - quick changeover
 - preventative maintenance
 - waste minimisation
 - efficient process layout
- role of production control in quality maintenance including:
 - mistake proofing process
 - defect detection, production halt and correction procedures
 - total quality management (TQM), quality assurance (QA) procedures and quality control (QC), and SPC processes
 - role of SPC and process capability
- production control performance indicators and indices
- applications where role of probability in sampling and SPC is important
- SPC including:
 - data types and frequency distributions
 - population mean and standard deviation
 - sample mean and standard deviation
 - upper and lower specification limits and target
 - upper and lower process control limits and centre line
 - data mean and process control centre line offset
 - three sigma and six sigma
 - sigma shift to account for long-term drift of data
- types and functions of control charts
- attributes and variables of sampling plans
- features and functions of graphical methods for display of data including:
 - Ishikawa 'Fishbone' diagrams
 - histograms
 - Pareto analysis diagrams
 - flowcharts
 - tally charts
 - scatter plots
 - run charts, including control charts
- types of manual and automated data collection and information flow.

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Assessment Conditions

- Assessors must:
 - have vocational competency in competency in applying production and service control techniques at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the Standards for Registered Training Organisations 2015 or its replacement and comply with the National Vocational Education and Training Regulator Act 2011, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires.
- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions that cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required including relevant workplace procedures, product and manufacturing specifications.
- 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.
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Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>