



Australian Government

MEM23118 Apply production and service control techniques

Release: 1

MEM23118 Apply production and service control techniques

Modification History

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

Application

This unit of competency defines the skills and knowledge required to apply techniques for production and service control to maintain efficient and effective supply of product or service delivery to customers and to provide data for improvements to enhance competitiveness. It includes monitoring and measurement of quality, costs, quantities and reliability of processes in the value chain, including maintenance activities to ensure customer requirements are met. It also requires the use of statistical process control (SPC), control charts and the graphical representation of results.

This unit applies to individuals who are required to control production and/or service delivery processes to ensure quality for product manufacture or the provision of services to defined quality and operational requirements. It is suitable for people working as service providers, supervisors or technicians and those pursuing manufacturing, engineering or related technical qualifications and careers.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

MEM30012 Apply mathematical techniques in a manufacturing engineering or related environment

Competency Field

Engineering science

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Establish scope of required production or service control	1.1 Identify products or services required by customers, including quality and delivery requirements 1.2 Identify current production or service control tasks, key performance indicators (KPIs), and context within organisation strategic objectives and markets

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<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.3 Identify software techniques required for production or service control, communications and reporting 1.4 Identify stakeholders to be consulted on the production or service control tasks 1.5 Confirm work health and safety (WHS) and regulatory requirements, codes of practice, standards and risk assessment requirements
2. Review current data collection and production or service provision	2.1 Determine measurable parameters of production process or service delivery 2.2 Determine parameters of product or service that are open to control and establish tolerances or acceptable variation 2.3 Review process control functions 2.4 Review production control performance indicators and indices 2.5 Review the role of probability in sampling and SPC 2.6 Review process capability and SPC evaluation, control charts and sampling 2.7 Review features and functions of graphical methods for display of data
3. Analyse data and apply production control principles to improve product manufacture or service provision	3.1 Obtain or record production or service data or appropriate data samples using manual and automated devices 3.2 Use software and control chart techniques to generate histograms, Pareto diagrams, flowcharts, tally-charts, scatter plots and/or run charts in accordance with procedures 3.3 Analyse data for trends and correlations and apply to process improvement, quality control and other support functions in accordance with procedures 3.4 Determine process capability indices for an appropriate sample of a product or service delivery 3.5 Establish required performance indicators for production or service operations 3.6 Take corrective action in accordance with procedures 3.7 Monitor production or service delivery using control charts to determine compliance of the product or service with specified performance limits 3.8 Take further corrective action as required

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4. Report results	4.1 Provide required reports in accordance with procedures 4.2 Provide documentation including data, graphics, capability assessments, control and continuous improvement processes

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.

Production control related tasks include:	- measuring and recording data either manually or using automated data collection - determining process capability indices for a large sample of a product with a particular dimension normally distributed within upper and lower specification limits - applying sampling plans to products or measurable aspects of services and justifying the choice of sampling plan based on the properties required of the plan - applying control charts to a sample from a product or service to determine acceptability of the product or service within set limits such as Three-Sigma (3σ) and Six-Sigma (6σ) limits - analysing data for trends and taking corrective action in accordance with procedures - selecting and employing appropriate control charts from c-chart, p-chart and X-bar and R or np control charts - employing a Pareto analysis to determine priority issues for solutions related to a specific problem.
Required performance indicators for production or service operations	- design features including dimensional and weight specifications and tolerances - production schedules

include one or more of the following:	• organisation or customer specified target error rates and waste including those set under lean systems including 6σ • equipment availability indices • mass balancing targets • WHS-related indicators • task time compliance.
WHS, regulatory requirements and organisational procedures include:	• WHS acts, regulations and relevant standards • codes of practice from Australian and overseas engineering and technical associations and societies • risk assessments • registration requirements • safe work practices • state and territory regulatory requirements.
Lean principles and techniques are those that relate to the following as drivers of the process and measures for process improvement including:	• cost • capacity and responsiveness • quality • reliability • waste minimisation.

Unit Mapping Information

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

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>