



Australian Government

MSS405050 Determine and improve process capability

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MSS405050A Determine and improve process capability

Application

This unit of competency covers the skills and knowledge required to determine the actual (as distinct from design) capability of a process and then to analyse that process to remove assignable causes and reduce random causes. This unit applies to an individual (who may be a production manager, plant/process engineer, technical specialist or similar) who is responsible for developing plans to stabilise and then improve process capability and following agreement the implementation of the plans to improve process capability. The organisation may use either a six sigma or three sigma process.

This unit primarily requires the application of skills associated with communication in gathering and analysing data and consulting with relevant personnel. Teamwork, problem solving, initiative and enterprise, and planning and organising are required to determine causes to variations and implement solutions. This is done in an environment using computer technology and also requires aspects of self-management and learning to ensure feedback and new learning is integrated into process improvements and operations management control systems.

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

Pre-requisite Unit

MSS404052 Apply statistics to operational processes

Competency Field

Competitive systems and practices

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1 **Obtain data for process capability study**
 - 1.1 Identify the process requiring capability analysis, including relevant procedures.
 - 1.2 Identify customer specifications for product or service.
 - 1.3 Obtain process capability data.

- 2 **Analyse data**
 - 2.1 Identify assignable causes of variation in liaison with relevant personnel.
 - 2.2 Develop solutions to eliminate variation due to assignable causes in liaison with relevant personnel.
 - 2.3 Analyse random variations for possible causes in liaison with relevant personnel.
 - 2.4 Confirm causes of random variation.
 - 2.5 Develop solutions to reduce random variations in liaison with relevant personnel.

- 3 **Take action to improve process capability**
 - 3.1 Develop plans to implement solutions.
 - 3.2 Liaise with relevant personnel to implement solutions.
 - 3.3 Gain necessary approvals, as required.
 - 3.4 Monitor implementation and make adjustments, as required.
 - 3.5 Determine new/revised process capability.
 - 3.6 Implement revised process capability regime.

Foundation Skills

This section describes those required skills (language, literacy and numeracy) 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.

Competitive systems and practices include one or more ofL

- lean operations
- agile operations
- preventative and predictive maintenance approaches
- statistical process control systems, including six sigma and three sigma
- Just in Time (JIT), kanban and other pull-related operations control systems
- supply, value, and demand chain monitoring and analysis
- 5S
- continuous improvement (kaizen)
- breakthrough improvement (kaizen blitz)
- cause/effect diagrams
- overall equipment effectiveness (OEE)
- takt time
- process mapping
- problem solving
- run charts
- standard procedures
- current reality tree.

Process capability data includes one or more of:

- customer requirements for product or service
- process stability (control chart) performance
- other charts and data.

Procedures (written, verbal, visual, computer based, etc.) include one or any combination of:

- work instructions
- standard operating procedures (SOPs)
- safe work method statements
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant.

Unit Mapping Information

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Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=5b04f318-804f-4dc0-9463-c3fb9a3fe998>