



Australian Government

MSS404050 Undertake process capability improvements

Release: 1

MSS404050 Undertake process capability improvements

Modification History

Release 1. Supersedes and is equivalent to MSS404050A Undertake process capability improvements

Application

This unit of competency covers the skills and knowledge required to make process capability improvements, including analysing data from the process, developing improvements to eliminate variation due to assignable causes, and then implementing actions.

This unit applies to a person who reviews a range of process capability data and information, makes/arranges for changes to be made to procedures, equipment or process and then recalculates the process capability and monitors resulting improvement actions. The person will typically be a technical expert, team leader or be in a role where they have sufficient technical understanding of processes in their own work and that of others to be able to suggest and justify process capability improvements.

Process capability may have been determined using either a six sigma or three sigma processes. This unit applies to the application of statistical methods and the determination of capability based on those methods.

This unit primarily requires the application of skills associated with communication, information gathering and analysis. Initiative, enterprise and problem solving are also required to identify opportunities to improve process capacity. This unit also requires aspects of self-management and learning to validate own analysis.

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

Pre-requisite Unit

Nil

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.

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|---|-----------------------------------|-----|--|
| 1 | Obtain required data | 1.1 | Identify process for study. |
| | | 1.2 | Obtain/organise process to obtain required data/information. |
| | | | |
| 2 | Analyse information | 2.1 | Analyse data and determine assignable causes. |
| | | 2.2 | Develop possible improvements to eliminate assignable causes. |
| | | 2.3 | Incorporate own experience and learning into proposed process improvement proposals. |
| | | 2.4 | Develop process improvement proposals. |
| | | | |
| 3 | Improve process capability | 3.1 | Obtain required authorisations to implement improvements. |
| | | 3.2 | Liaise with relevant people to implement improvements. |
| | | 3.3 | Obtain/organise required data for improved process. |
| | | 3.4 | Recalculate process capability. |
| | | 3.5 | Implement revised data collection/processing and new capability information. |
| | | 3.6 | Monitor improvement actions and make adjustments, as necessary. |

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 of:

- 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.

Variation includes all of:

- random variation (no assignable cause)
- non-random variation (which has an assignable cause).

Improved process capability may result from one or more of:

- continuous improvement with the process capability being recalculated periodically
- an improvement project with the process capability recalculated as part of that project.

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

Release 1. Supersedes and is equivalent to MSS404050A Undertake process capability improvements

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for MSS404050 Undertake process capability improvements

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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 the ability to undertake one (1) or more process capability improvements and to:

- obtain required data
- determine process capability/trial limits
- use the data and other information to develop process improvement proposal(s)
- monitor the improved process and make further adjustments as appropriate.

Knowledge Evidence

Must provide evidence that demonstrates knowledge relevant to their job role sufficient to fulfil their job role independently, including:

- data collection and manipulation techniques
- variability, normal distribution and three/six sigma limits
- causes of random and non-random variation in the process
- approaches to reducing variability.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence shall be based on a holistic assessment of the evidence.
- The collection of performance evidence is best done from a report and/or folio of evidence drawn from:
 - a single project which provides sufficient evidence of the requirements of all the elements and performance criteria
 - multiple smaller projects which together provide sufficient evidence of the requirements of all the elements and performance criteria.
- A third-party report, or similar, may be needed to testify to the work done by the individual, particularly when the project has been done as part of a project team.
- Assessment should use a real capability improvement project for an operational workplace.
- Knowledge evidence may be collected concurrently with performance evidence or through an independent process such as workbooks, written assessments or interviews (provided a record is kept).

- 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.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- The assessor must demonstrate both technical competency and currency.
- Technical competence can be demonstrated through:
 - relevant VET or other qualification/Statement of Attainment AND/OR
 - relevant workplace experience
- Currency can be demonstrated through:
 - performing the competency being assessed as part of current employment OR
 - having consulted with an organisation providing relevant environmental monitoring, management or technology services about performing the competency being assessed within the last twelve months.

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