



Australian Government

Department of Education, Employment and Workplace Relations

MSS403051A Mistake proof an operational process

Release: 1

MSS403051A Mistake proof an operational process

Modification History

New unit, superseding MSACMT451A Mistake proof a production process - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to make changes to own and others work in a work area which prevents errors and/or backsliding to a pre-improvement level of practice.

Application of the Unit

This unit applies to a person who needs to analyse a process that a team is responsible for and determine methods of mistake proofing it (e.g. ensuring it only produces product within an acceptable range or error-free transport and storage of goods). 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 mistake proof the production process in their area. After improvement activities have been undertaken these improvements need to be sustained.

This unit requires the application of skills associated information gathering and analysis. Initiative, enterprise and problem solving are also required to identify mistakes and determine strategies for eliminating them. This unit also requires communication and teamwork skills to ensure mistake proofing strategies are implemented and self-management and learning skills to continually reflect on and integrate feedback about the effectiveness of strategies.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Analyse process	1.1	Identify sources of variability/non-conformance in the process
		1.2	Identify critical control points in process
		1.3	Analyse causes of variability/non-conformance
2	Develop preventative techniques/systems	2.1	Liaise with team members and other people to develop mistake proof options for performing operation
		2.2	Test and validate mistake proofing options
3	Implement permanent fix	3.1	Liaise with relevant people to have systems/procedures changed to implement solution
		3.2	Liaise with relevant people to implement the solution
		3.3	Liaise with relevant people to ensure self and others in the team or work area have an appropriate skills set
		3.4	Follow through to ensure implementation occurs
4	Monitor implementation	4.1	Critically observe the implementation
		4.2	Compare the results of the implementation against the expected outcomes

- 4.3 Modify solution to improve outcomes
 - 4.4 Ensure procedures reflect change
 - 4.5 Ensure training/assessment reflects change
 - 4.6 Audit change at agreed period/cycle
 - 4.7 Take action on any observed deviation
- 5 Seek improvements
 - 5.1 Observe changes
 - 5.2 Analyse process again, if required, to ensure improvements are sustained

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- communicating with team or work group members, technical support personnel and other relevant staff
- explaining mistake proofing and related concepts
- facilitating input of others and encouraging acceptance of changes
- analysing and visualising operations in terms of flow and contribution to customer outcomes
- solving problems to determine root cause of errors and possible solutions
- analysing and interpreting information about errors and mistake proofing options in terms of cost, feasibility, regulations and value to the customer
- suggesting design changes to operations and products that eliminate the potential for errors
- suggesting mechanisms or procedures that warn of errors where operations cannot be designed to eliminate errors,

Required knowledge

Required knowledge includes:

- mistake proofing concepts, including, in priority order:
 - eliminate the possibility of the error via changes to the process
 - prevent the error from occurring via physical or virtual barriers
 - reduce likelihood of the error by encouraging correct action
 - mitigate the impact of the error if it does occur
- understanding of processes undertaken by team
- factors in the processes which may cause variability
- methods of controlling the variability in the process
- mistake proofing methods relevant to the process/product

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit	A person who demonstrates competency in this unit must be able to provide evidence of the ability to: • analyse variability and non-conformances • identify, analyse and evaluate information from a variety of sources to identify errors and options for mistake proofing • facilitate implementation of mistake proofing activities that reduce waste • facilitate sustaining the mistake proofing activities.
Context of and specific resources for assessment	Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices. Access may be required to: • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
Method of assessment	A holistic approach should be taken to the assessment. Competence in this unit may be assessed by using a combination of the following to generate evidence: • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge. Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and

	disability.
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	Competitive systems and practices may include, but are not limited to: • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • 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
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	Competitive systems and practices should be interpreted so as to take into account: - the stage of implementation of competitive systems and practices - the size of the enterprise - the work organisation, culture, regulatory environment and the industry sector
Mistake proofing	Mistake proofing is based on the concept of zero defects. The first priority is to eliminate the possibility of an error occurring. However, where this is not feasible mistake proofing can be used to reduce the occurrence of errors and/or to minimise their impact. Mistake proofing should target an error in the following priority order: - eliminate the possibility of the error via changes to the process - prevent the error from occurring via physical or virtual barriers, - reduce likelihood of the error by encouraging correct action (e.g. through warning systems) - mitigate the impact of the error if it does occur Mistake proofing is also called error proofing or baka-yoke or poka-yoke
Options for mistake proofing	Factors to consider when prioritising options for mistake proofing will vary according to the process and may include: - success rate in eliminating errors - feasibility - skills required by employees - cost - capacity to reduce waste
Procedures	Procedures may include: - all work instructions - standard operating procedures - formulas/recipes - batch sheet - temporary instructions and similar instructions provided for the operation of the plant - good operating practice as may be defined by industry codes of practice (e.g. good manufacturing practice (GMP) and responsible care)

	• government regulations Procedures may be: • written, verbal, computer-based or in some other format
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Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.